Soap

E N D U R I N G Q U A L I T Y

CIAN ATHLETE
Century B. C.

A MASTERPIECE OF SCULPTURE—Genius in workmanship, complete honesty in purpose, talents far above the ordinary, painstaking patience, all climaxed in the production of a product of enduring quality.

AN UNGERER PRODUCT—Our years of success cause us to feel that these same attributes apply to our Ungerer products and we constantly bend every effort to adhere to these high standards. At this time we look forward to another year of supplying the Soapmakers of America with our Ungerer perfuming materials—each one of which is a product of enduring quality.

UNGERER & CO.
13-15 WEST 20th STREET, NEW YORK CITY

and Sanitary Chemicals

USDA
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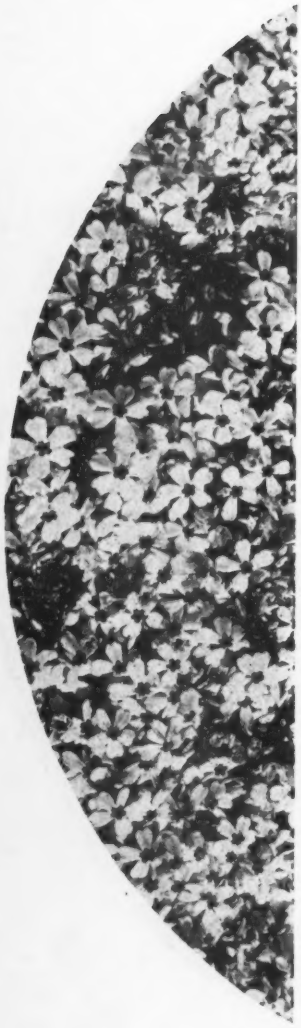
Soap Perfumes



ODOR is perhaps the most important factor in the successful merchandising of toilet soaps. Competition being what it is today, the up-to-the-minute soap manufacturer is insisting on the very best possible perfume available, at a price within reasonable limits.

Our laboratories, based on the long experience of our principals Chuit Naef & Cie., Geneva, Switzerland, are turning out remarkably fine floral and bouquet odors for toilet soaps at surprisingly low figures.

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Firmenich & Co., Inc.

135 FIFTH AVE., NEW YORK

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AUG 18 1938

TOPPER
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Luxurious in Looks!
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VITOZONE processed DEODORANT BLOCKS

They still deliver more perfume per dollar than any other block. With finer Fuld-made aromatics, you will sell VITOZONE BLOCKS where you never sold before. And you will rescue your repeat business on deodorant blocks from "no-man's land."

CHLOROZIF
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The popular germ-deodorant spray. Colorless! — it looks like nothing. Odorless! — it smells like almost nothing. And sell! — it sells like nothing you ever handled, because it fits almost every deodorizing use.

Alkali-Proof FULSHINE CLEANER

Fulds stopped cleaner-damages when they started introducing this original alkali-proof cleaner.

Do not confuse FULSHINE with other cleaners of similar claims—because the fellows who try them won't, and they're still the bosses.

FOR YOUR NAME'S SAKE!

Our constant laboratory investigation of every new requirement of sanitary supply users pays both you and us.

It results in daring product novelties which keep "the leaders" leading under their *own name.*

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LIQUID DEODORANTS
LIQUID CLEANERS
LIQUID SOAPS
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perfume
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correctly
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To overcome this objectionable feature, Felton Chemical Company has developed a line of special aromatics . . . Formaromes . . . which definitely neutralize the inherent odor and impart an agreeable, pleasant scent.

SEND US A SAMPLE OF YOUR FORMALDEHYDE PREPARATION. OUR LABORATORY WILL RECOMMEND THE PROPER FORMAROME TO USE WITH IT.

FORMAROMES WILL IMPROVE THE ODOR OF ALL TYPES OF FORMALDEHYDE PRODUCTS.

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FORMAROMES

Soap and Sanitary Chemicals

Volume XV
Number 1

JANUARY
1939

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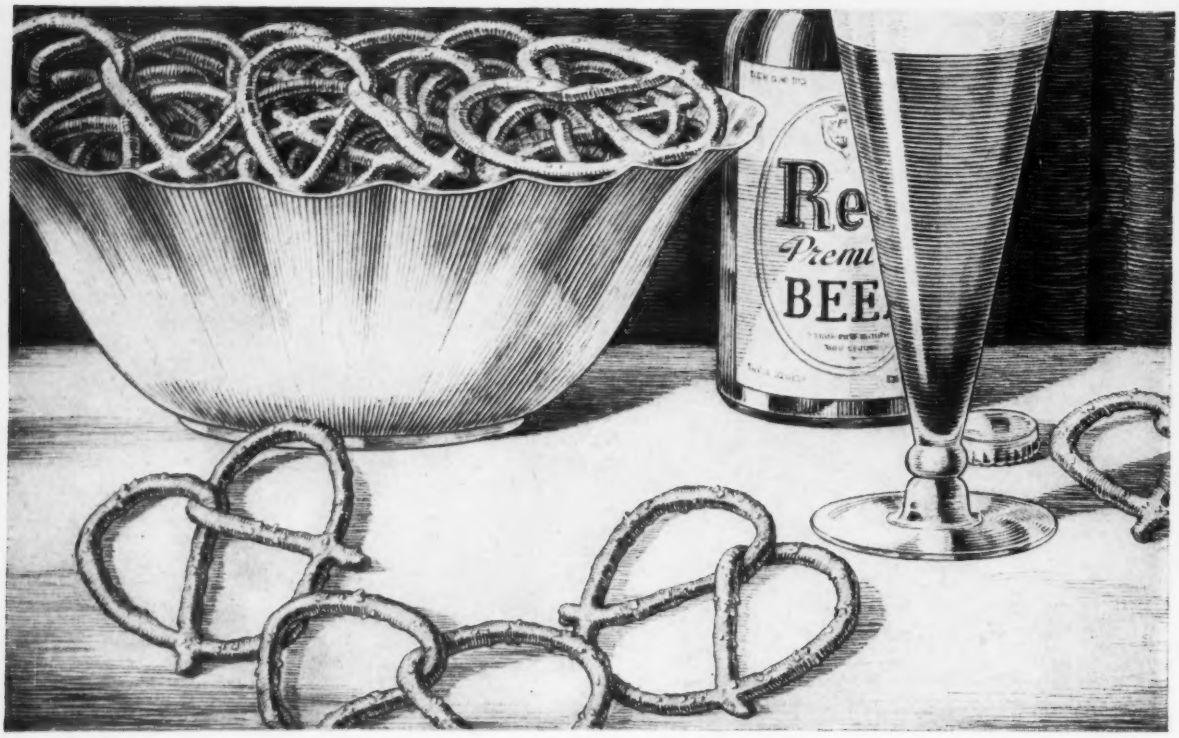
INTERESTING USES OF ALKALIES . . . NO. 1



How the Pretzel Gets its Shine . . .

WHETHER you are a beer drinker or not, you are undoubtedly familiar with that appetizing tidbit — the pretzel. But how many know that its inviting brown and glossy surface comes from a bath in a solution of Caustic Soda? After the dough has been twisted by hand or stamped by machine into the familiar shapes, the pretzels are placed on wire racks and dipped in a solution of 1 pound of Caustic Soda to 20 gallons of water. They then pass under an automatic salt shaker and on into the oven. In olden times the lye used was prepared by filling an old basket with wood ashes and pouring on boiling water, which filtered through into a tub.

While the amount of Caustic Soda used in a year's pretzel production is trivial compared with even a day's consumption by the paper, soap, textile or chemical industry, this application is an interesting example of the widespread use made of this common alkali. It also serves to emphasize the importance of extreme purity — a quality which COLUMBIA Caustic Soda possesses to a degree made possible only by eternal vigilance and a deep sense of responsibility by the inspectors and all other workers in the Production Department of the COLUMBIA organization.

COLUMBIA

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • • •
MODIFIED SODAS • LIQUID CHLORINE • CALCIUM CHLORIDE

THE COLUMBIA ALKALI CORPORATION
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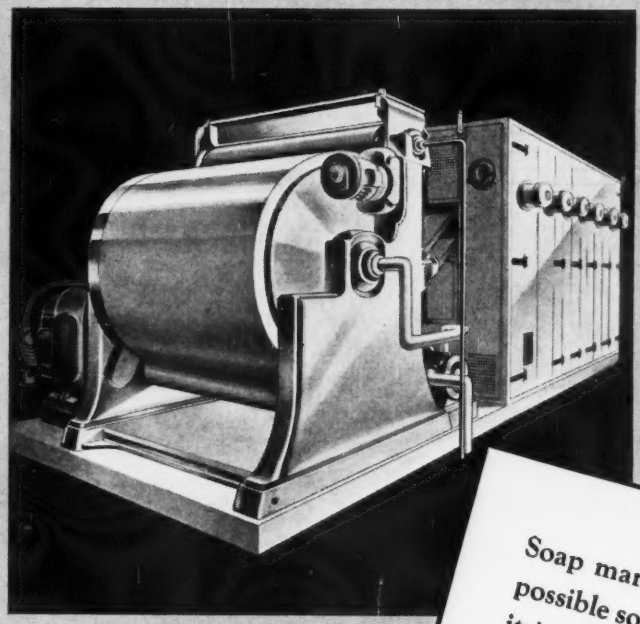
PERFECT *Soap Flakes*

MADE BY THE NEW PROCTOR SYSTEM



Soap manufacturers know that to obtain the best possible soap flakes, toilet cakes or granulated soaps it is necessary first to produce flakes of unvarying thickness, uniformly dried. The new Proctor System assures the sustained production of such flakes . . . flakes that are not only evenly thin and evenly dried, but also entirely free from water marks and rough edges that tend to break up, causing fines. On some soaps, flakes are formed and dried on this new machine in about eight minutes, and at the rate of 6000 pounds an hour. The modern stream-lined construction of this Proctor System, with its smooth, easily-kept-clean surfaces is an important advancement in soap machinery design. And this new method offers big savings that no progressive soap manufacturer can afford to overlook. In a typical case where it replaced a 5-roll machine, total drying costs were cut 30%, steam was reduced 38% and a saving of 55% in floor space was realized.

Send for new 16-pg. catalog that illustrates and completely describes this remarkable new Proctor Flake Soap System.

PROCTOR & SCHWARTZ • INC • PHILADELPHIA

FINE CONTAINERS for FINE DRUGS

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ANCHOR HOCKING GLASS CAPS

-an unbeatable combination

as easy as opening a Purse...

ANCHOR AMERSEAL CAPS

ANCHOR AMERSEAL CAPS may be supplied in gold lacquer, white, black or any other coating, or may be lithographed with your private decoration.

The very operation of opening either an Anchor Amerseal Cap or a purse is identical . . . just a simple twist of the wrist. It is this feature, this convenience, this ease of removal, plus the equal ease and efficiency with which it can be resealed and resealed that has made the Amerseal Cap the most popular by far among consumers—a fact which you can easily and quickly prove to your satisfaction. Since consumers prefer their packages sealed with Amerseal Caps, may we suggest that it would be an excellent move on your part to seal your packages with them? An attractive illustrated book describing the many other distinctive advantages of Anchor Amerseal Caps is yours for the asking. ANCHOR CAP & CLOSURE CORPORATION, Long Island City, New York and Toronto, Canada. *Closure Division of Anchor Hocking Glass Corporation.*

ANCHOR HOCKING GLASS CAPS

-an unbeatable combination

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- Cold
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- Deodorant
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- Face
- Hair
- Hand
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- Cream
- Powder

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- Gasket
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- Tablets

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- Face
- Hair
- Hand
- Shaving
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WAX

***IMPORTANT** — Please Note — Send us a sample of your product unperfumed, state type odor desired your cost limitation, and we will return it to you deodorized, or perfumed.

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15 East 30th Street, New York City — Factory: Springdale, Conn.

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"BEAMAX" LIQUID WAX

Dries in 20 minutes or less to a hard, lustrous, beautiful finish. No polishing required. For all types of floors. Perfect emulsion. Will not settle out.

"CIRENE" LIQUID WAX

Dries in 10 to 20 minutes, to produce a hard, lustrous finish which is impervious to moisture within a few minutes after drying. For all types of floors.

THE DAVIES-YOUNG SOAP CO.
DAYTON, OHIO

Manufacturers of Soaps, Floor Waxes, Polishes, Cleansers, Disinfectants, Deodorants, Insecticides

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The Davies-Young Soap Co.
Dayton, Ohio.
Please send us samples and prices of
☐ "BEAMAX" Liquid Wax ☐ "CIRENE" Liquid Wax

Name_____

Address_____

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We recommend the following for use in Soaps, Fly Spray Deodorants, Air Purifiers, etc.

These are exceptional values—Odors which are infinitely finer than the price would indicate.

Spice, No. 2861	$ .66 per lb.
Lily of the Valley, No. 2862	1.10 per lb.
Lilac, No. 2863	.72 per lb.
Jasmine, No. 2864	.66 per lb.
Incense, No. 2865	1.05 per lb.
Rose Geranium, No. 2866	1.21 per lb.
Mimosa, No. 2867	.61 per lb.
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A synthetic pure chemical. An alcohol which contrary to other fixatives which are almost exclusively esters, is absolutely stable in the presence of acids and alkali, whereas the esters saponify at higher temperatures.

Arosol is therefore a very good fixative in compounds for cold stirred soap. It is particularly valuable in Eau de Cologne or lemon type odors. It is an excellent solvent for the artificial Musks. Comparative tests against Benzyl Benzoate, Benzyl Alcohol, DiEthyl Phthalate show remarkable results in favor of Arosol. Use about 10% in your regular compound.

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The seemingly overnight growth of the use of Pyro has not found Warner unprepared. For several years Warner has been privileged to supply Pyro, first for experimental use and latterly for commercial production of soap and detergent mixes.

53 YEARS

Today, we have ample capacity to serve your present and future needs plus a solid background of production and technical experience on this "new" phosphate.

We will welcome the opportunity to guide you in the choice of phosphates for your products. Your inquiry for prices, samples or technical data on our several grades of Mono, Di, Tri or Tetra Pyro Sodium Phosphate will involve no obligation and will receive prompt attention.

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CHRYSLER BUILDING, NEW YORK, N. Y.

TETRA SODIUM PYROPHOSPHATE

($Na_4 P_2 O_7$)

Get it from —

VICTO

● For almost forty years Victor Chemical Works has specialized in the field of phosphates. Victor's unchallenged leadership in this field is clearly the result of being the only chemical manufacturer whose principal business has always been the development and production of the salts of phosphoric acid.

● Of particular interest to soap manufacturers is Victor's contribution to the role of phosphates as soap improvers. Fifteen years ago Victor began making tetra sodium pyrophosphate for certain limited purposes. Later research into pyrophosphate's unique properties definitely pointed to a far more extensive use of the product . . . as a soap improver in particular.

● Convinced that when these unique properties came to the attention of the soap industry a huge demand would be created which no one in the chemical business could supply, Victor spent years developing an improved manufacturing technique adaptable to large scale production.

● By the time the soap makers were ready to use tetra sodium pyrophosphate on a large scale, Victor was ready with a new plant and ample facilities to meet the tremendous demand for a product of uniformly high quality. This plant today is the largest of its kind in existence.

● Through Victor's foresight, soap manufacturers were able to market an improved soap without delay . . . saving many months of valuable time. It is through such foresight . . . and courage to act thereon . . . that Victor has become the world's largest manufacturer of phosphoric acid and its salts.

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Plants: Nashville, Tenn.; Mt. Pleasant, Tenn.; Chicago Heights, Ill.

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HEADQUARTERS FOR . . .

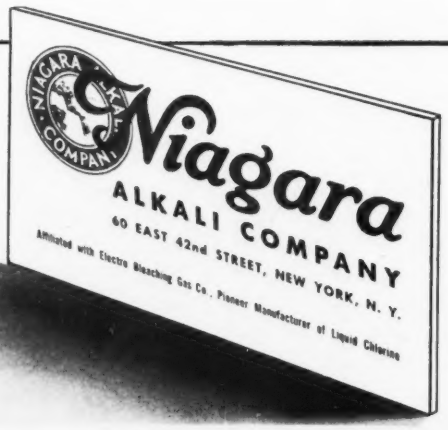
pHosphates

"I'm sorry, mamma, I thought you said 'panful', not 'handful'."

We all make mistakes but you can never go wrong if you just say

"NIAGARA CAUSTIC POTASH"

You can't go wrong either, on Niagara Caustic Soda and Carbonate of Potash.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Niagara
ALKALI COMPANY
60 EAST 42nd STREET, NEW YORK, N. Y.
Affiliated with Electro Bleaching Gas Co., Pioneer Manufacturer of Liquid Chlorine

A GOOD START

A good start for a good business year is a good product. Soaps can be made more salable, more attractive, more pleasant to use through more distinctive perfuming.

Let us suggest some perfumes with real sales appeal.

VAN AMERINGEN-HAEBLER, INC.
315 FOURTH AVENUE, NEW YORK CITY

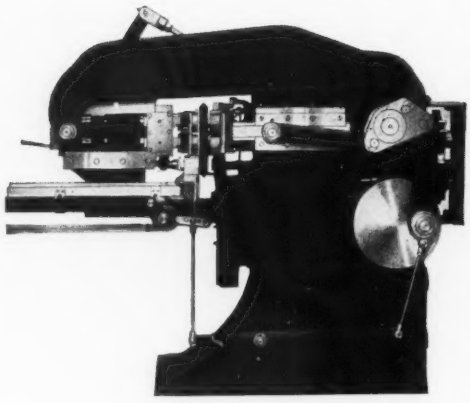
Soap pressing 1939 style...

JONES PRESSES

MODERN soap pressing means JONES toggle operated PRESSES . . . cleancut, attractive cakes . . . perfect detail . . . ready consumer acceptance . . . low operating cost . . . no excessive wear on dies.

Old model worn-out presses mean marred, unsalable cakes . . . high operating cost . . . expensive die replacements.

Take a look at the new double toggle JONES Laundry and Toilet Soap PRESS shown here . . . in duplex type, 250 cakes of toilet soap per minute . . . in simplex type, 90 to 140 bars of laundry soap per minute . . . a long dwell of the dies on the soap, giving perfect pressing and long life for dies . . . with other



Type K Laundry Soap Press

greater economies of operation than older models . . . fed and run to capacity by one operator . . . no vibration . . . Zerk oilers throughout . . .

. . . every one a sound reason why you should figure now on replacing your obsolete models with the new toggle type JONES PRESSES.

R. A. JONES & COMPANY, Inc.

P. O. Box 485 Cincinnati, Ohio

The Standardized *Constant Motion Cartoner* packages, bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds and inserts direction sheets and corrugated board liners with the loads.

As the Editor sees it..

IF THERE is any long-range tendency on the part of the American public to spend less money for soap and soap products, it is not apparent in examining the values of tese materials produced in the United States as shown in comparative figures for 1937, 1935, and 1933, recently issued by the Bureau of the Census in Washington. An increase of over twenty-five per cent in the value of soaps manufactured in 1937 was noted over the figures for 1935, which figures in turn were well above those for 1933. The value of raw materials, containers, equipment and the like purchased in 1937 also showed an equivalent increase. For the same year, wages paid in the soap industry were up sharply over previous years. Dovetailing these figures in with those for 1938, there seems to be every indication that American soap production and consumption are still quite distinctly on the rise in spite of new factors which are being injected into the situation more and more as time goes on.

TAKEN as a whole, 1938 was a good year for the soap industry. On this point, leading authorities appear to agree. Soap sales and consumption stood at a high level, as did employment. Return from operations in most cases was indicated as fairly satisfactory in spite of high raw material taxes. But, as was pointed out at a meeting of soap manufacturers last month, 1938 is water over the dam. It is the ever-broadening threat of new competition from without which is of greatest concern to the average soaper's future,—competition from the chemical industry which might conceivably remove the detergent business from the soap industry and place it elsewhere.

The possibility of a rapid shift from old things to new in supplying the detergent needs of the world as a result of chemical developments, is not a new thought among soapers. For some years past, consciousness of the threat has never been lost. Numerous steps have been taken to be prepared if and when soap might ever be outmoded by newer products. In defense, various improvements in soaps, designed to overcome their inherent drawbacks, have been developed, which in turn tend to strengthen the position of soap in retaining its market.

But whether soap as such continue to prosper as it did in 1938, or whether in time it be replaced by something else, the business of catering to the detergent needs of the world is a job for the soap industry. The industry is geared to the purpose, and cannot be easily displaced unless it falls completely to sleep during the coming years, which possibility in the light of past experience appears quite remote.

TALKING to a well-known executive who recently completed fifty years in the soap business, and who is conceded to know something about soap and the industry which makes it, we asked him what in his opinion had been the most significant development in all those years since 1888. Right back, almost as though he had anticipated the question came his reply that general improvement in soap quality stood out above all other things in comparing the industry and its products today with a half-century ago, or even thirty years ago. He stated that he marveled at the fine quality of run-of-the-mine soaps of all types on the American market at the present time, and at the low prices at which they are available to the public. The soaps of yesteryear, even the best of them, could not hold a candle to those on the market today, he added, and if some of the concoctions which passed as soap back in the gay nineties were offered to the

public now, they would be hooted off the market in jig time.

To what did he lay this wide improvement in soap quality? To keen competition,—and to the constant research, improved technique, and advertising, which this competition has compelled manufacturers to adopt or pass out of the picture. Does the consuming public appreciate the fine quality soaps and the low prices at which they can be bought today? Probably not fully, he said, because they have come to take better grade soaps for granted,—but if they were given an opportunity to compare them with the soaps of the "good old days," this latent appreciation would become instantly apparent. After amplifying his remarks along the line of the foregoing, he concluded by emphasizing the fact that American soaps today are the finest in the world.

It is good to hear these things from a man who would be just as quick to say the reverse, bluntly and to the point, if it were true. What greater justification could there be for the many millions spent in research, new plant, and new equipment since the turn of the century?

TODAY, there are no discriminatory taxes on soaps anywhere in the United States. When we consider the array of taxes, federal, state and local, on almost everything from cheese to chin-whiskers, the freedom of soap from specific taxes is quite remarkable. With the removal of the five per cent federal so-called luxury tax on toilet soaps about the middle of 1938, the last of the direct taxes on soap as such passed on its way. Numerous as have been the proposals in state and local legislation to include soap in various taxes on cosmetics and allied goods, there is still no single place where soap is taxed. That this reflects altogether a widespread policy of common sense in regard to soap, —encouragement of cleanliness and improved public health,—is quite obvious.

That soap is free of direct taxes is no accident. The situation undoubtedly grows out of the vigilance and the untiring efforts over the past several years of the Association of American Soap & Glycerine Producers. That legislative bodies of the country are today convinced that soap is not a cosmetic, and not a luxury, but solely a necessary agent of cleanliness, is, we believe, due primarily to the work of this Association.

A continuation of burdensome excise taxes on soap raw materials cannot detract from the fact that soap, itself, is tax free. These processing taxes are distinctly a horse of another color, and a problem apart from soap taxes. Perhaps they will next be in line for closer attention, particularly in view of the fact that there has been some talk in Washington of increasing them. But irrespective of the excise tax situation, little doubt exists but that the industry would be carrying any number of additional taxes, state and federal, were it not for the persistent efforts of the Association. We particularly desire to point this out to those few soapers who still do not see fit to include themselves in its membership.

DISCUSSING the psychology of advertising, one William H. Kniffin, a newspaper columnist, recently had occasion to mention "Pyle's Pearline," which old-timers will remember used to cut quite a figure in the market for soap products some years back. Mr. Kniffin allowed as how he hadn't seen any advertisements for "Pearline" for some years and concluded that maybe the product was not made any more. Score a bullseye for Kniffin! The fact that he has not seen any "Pearline" ads (he used the word "ads" but we pros always say advertisement . . . we don't like "ads" any more than we like "gent" or "frat" . . .) should in this day and age be conclusive evidence that the product is dead,—dead as a grilled duck.

For the information of Mr. Kniffin—and others —"Pearline" has been a classic in the advertising industry for many a year—used to scare the pants off advertisers who want to cut down or quit. Back in the "Gay Nineties" and after, when Mr. Pyle's Pearline whale with its white spot was the motif of prolific advertising, "Pearline" was one of the big-shots of the soap business. But, then came new ownership in the firm—so the story goes—and they decided to save the money spent for advertising. Everybody knew "Pearline," so why advertise it? And, forthwith started the rapid decline, ending—if we remember correctly —in the eventual sale of the plant and machinery and the demise of "Pearline." All because they quit advertising! Poor "Pearline!" We want to thank Mr. Kniffin for reviving this classic just as its memory was beginning to grow dim.

Glycerine...

Its position and outlook in the world market*

By N. N. Dalton

THE history of glycerine has moved in approximate thirty-year cycles. It was thirty years after its discovery by Scheele that its exact chemical relationship to fatty acids was demonstrated by Chevreul, thirty years more before Sabrero combined it with nitric acid to form nitro glycerine, and still another thirty years until the Nobel process for incorporation of nitro glycerine into blasting gelatines was perfected. About this time (1870) or ninety years after its discovery the first United States patent was issued for recovery of glycerine from spent soap lyes and another thirty years had rolled around before efficient distillation methods were adopted. The past thirty years has been a period of rapid expansion and diversification of uses.

The next thirty years may be a period of further rapid expansion of uses, increased production of substitutes, perhaps synthetic glycerine, and possibly a solution of how the sun's rays are converted by photo synthesis in plant life to produce carbohydrates and glycerides, or as Mr. Kettering of General Motors puts it: "What makes the grass green."

Glycerine is paradoxical in providing examples of contradictory physical and chemical behavior:

1. It lowers the freezing point but raises the boiling point of water.
2. It is readily miscible with water in all proportions, but does not mix with steam.
3. While one of the most efficient solvents known to science, it becomes in some chemical combinations practically impossible to dissolve.
4. On account of its high surface tension, it seeps through small openings which water will not penetrate, but when mixed with red lead forms a waterproof cement.
5. A small amount of glycerine lengthens the life of plant seedlings, cut flowers and autumn leaves through retention of moisture, but too much glycerine reverses the process of osmosis and sucks the moisture out of the living plant back into the stems or roots.
6. Glycerine, a most efficient antifreeze used by Admiral Byrd in the Antarctic, and without which according to his own statement he would have had no instrument records, gives the same freeze protection in a 90 per cent solution that it does in a 5 per cent solution. In a 67 per cent solution with water, it freezes at —50° F., but a 98 per cent solution freezes at +56° F.
7. Babies are eased into the world with glycerine, and corpses are embalmed with it.
8. In its combination as nitro-glycerine it has destroyed thousands of human lives, but nitro-glycerine is used by physicians as a mild heart stimulant.
9. Fats or glycerides are 10 per cent lighter than water. Glycerine itself is 26½ per cent heavier than water, but the fatty acids remaining after the removal of the glycerine have approximately the same specific gravity as the original fat.
10. Originating remotely in the sun's rays, glycerine decomposes rapidly on exposure to ultra-violet rays.
11. Nature sends it upward in the sap of the growing tree, and man sends it downward to the deepest bowels of the earth for the mining of gold.
12. Used in book publishing from the printers' rolls to the paper, the ink, and the glue for bookbinding, it has only been in the last ten years that an authoritative book on glycerine has ever been published, and that book is now out of date.
13. In the moving picture industry, glycerine is a basic ingredient of the film, and in more liquid form simulates sweat on the "he-man" and animals and provides tears for the pink cheeks of the "cuties."
14. From a simple chemical combination of glycerine and nitric acid and the Nobel dynamite process came the Nobel Fund which provides $200,000 per year in prizes for the best yearly contributions to peace, art, literature and science, and the greatest destructive force of modern times became the sponsor of peace and culture.
15. Marketwise, glycerine is kaleidoscopic, but not so contradictory. Feasts have followed famine with comparative regularity, but there

* Address before annual meeting Assn. of American Soap & Glycerine Producers, Inc., New York, Dec. 1. Mr. Dalton is technical consultant and adviser to the Association.

is never so much glycerine around the corner as at those brief periods when our customers have become alarmed over securing their requirements.

Glycerine is universal in plant and animal life. We may mention in plant life the high oil content of the tropical palm fruits such as cocoanuts, palm nuts, and palm kernels, and the lesser oil content of the seeds of peanut, cotton, sesame, olive, corn, soya, rape, linseed, perilla tung, to mention only a few of the better known plants.

The continuous natural and universal production of glycerides in all plant life is supplemented by production in animal life which not only absorbs glycerides from the foods on which it lives, but, by its own metabolism, builds up other and more glycerides. For instance, while corn and forage crops and the various press cakes from cottonseed, copra, soya, etc., used for fattening live stock all contain a small amount of oil, this fat content is not essential and contributes very little to the fattening of the animal.

The fish puts on fat through feeding on plant and animal life which is notably deficient in glycerides, yet fish and whale oil production has become a very important factor in world fat supplies.

Supplementing this cumulative production of fats or glycerides from plant to animal life, we have a natural production of glycerine itself from the fermentation of carbohydrates, and a potential synthetic production of glycerine from all carbohydrates which would include sugars, molasses, corn residues and other rather cheap raw materials. Glycerine produced by natural fermentation in wines and beers remains in the beverage, and the amount so produced depends on the material used and the extent of fermentation. In a poor growing season the grape is deficient in sugar, and the glycerine content of the wine is below normal. In such cases, it is an old practice of wine makers to add a small percentage of glycerine to bring the content up to normal and thereby add smoothness to the wine. In other words, the natural production of both glycerides and glycerine in living plants and animals is continuous, and the recovery of the quantity required for human use is soely an economic problem.

Glycerine Recovery

RECOVERY of glycerine by the soap and candle or fat splitting industries is essentially a by-product operation and depends on the consumption of soap, candles, and fatty acids. The decline of the candle industry through substitution of other illuminating agents is being followed by a decline in soap consumption in some of the leading soap consuming countries through substitution of non-soap detergents. This is particularly true in those countries which have large hard water areas, and where scarcity of fats and high tariffs cause high soap costs. The trend in these countries is toward lower fat content soaps and greater use of water breakers and non-soap detergents, or in other words, toward a lower consumption per capita of soap fats with corresponding decrease in glycerine recovery.

The world political situation is giving us a constantly changing picture both of recovery and distribution of glycerine recovery with occasional loss of balance between supply and demand which is always quickly and automatically corrected to meet the demands of the consuming markets.

In the briefs on soap and glycerine presented by the Association to the Committee on Reciprocity Information in connection with the British Trade Treaty, it was set forth that it is the policy of all the larger and more civilized and, therefore, the largest per capita producers of soap and glycerine to protect that industry in the interest of both public health and national defense. Such protection in the form of tariffs results in reciprocal tariffs by other nations which forces some soap and glycerine production into the newer countries.

The soap and glycerine industry of Germany is very interesting at the moment because it is an extreme example of what can happen through political developments. Owing to shortage of domestic fats and lack of foreign exchange with which to buy them from other countries, Germany has greatly reduced the fat per capita allowable for soap, is using synthetic fatty acids made from lignite, urging recovery of soap oils from coffee grounds and other residues, permits no glyceride to be used in the soap kettle without previous splitting and recovery of all glycerine, and through this decrease in glycerine recovery and simultaneous development of many new products requiring the use of glycerine, has become an importer of glycerine for domestic uses in a wide variety of new chemical products.

While Germany is an extreme example, we may, from a broad view point, expect a stationary to declining glycerine recovery from the older countries whose soap consumption per capita has reached a point of comparative stability, and in those countries the diversification of industry is also constantly increasing the consumption of glycerine.

U. S. Supplies and Consumption

SO far as our domestic supplies of glycerine are concerned, we produce enough to supply the United States on a normal consuming basis, but any abnormal demand easily forces the market to a speculative level that attracts a flood of imports. We have just passed through such a period in 1936 and 1937 when a temporary shortage forced the crude market to 24 cents and brought over 20 million pounds of crude and refined glycerine into this country.

A sharp rise in glycerine values is generally followed by a decline in price, and the net return to the glycerine producer over the cycle may be less than if sound values had prevailed. Some measure of protection against famine prices, which tend to stimulate both imports and the use of substitutes, may be achieved by both buyers and sellers carrying sufficient domestic stocks to take care

of the sudden demands which accompany a rapid rise in industrial activity or an important new use.

Whereas fifteen years ago our domestic usage of glycerine was approximately ninety million pounds per year, that usage has increased to an annual average of 126 million pounds per year (past five years) and reached a peak of 137 million pounds in 1936. This increased consumption has been in a diversity of new products such as transparent and glazed paper, plastics, protective coatings for both automobiles and household interiors, and in many automobile parts such as rubber, safety glass, fabrics, shock absorbers, and lubricants.

Fifteen years ago fifty per cent of our domestic usage was in the manufacture of explosives, whereas that usage today is scarcely 25 per cent of the total and may still be trending downward for such reasons as decline in coal mining and restriction of petroleum production, widespread use of natural gas for fuel, and poor demand for metals which require explosives for mining. Conversely, in most foreign countries the importance of glycerine in explosives has increased rather than diminished, as military campaigns requiring road building and destruction and rebuilding of bridges, railroads, and other properties, require explosives in large quantities.

Entirely aside from these demands, the artificially high price of gold has increased the consumption of glycerine in mining explosives by fifty per cent in more important gold mining areas such as South Africa. In the past five years, the total increased consumption of glycerine in explosives outside of the United States has perhaps more than compensated for loss of domestic explosives consumption, and if declining world currency values force another upward adjustment in gold values, we may expect further increased usage of nitro-glycerine in gold mining.

As mentioned above, where glycerine is used as an industrial raw material, its consumption tends to follow the pace of industrial activity as reflected in the production of steel, automobiles, and other heavy industries which in turn stimulate demand for consumer goods.

Value of Diversified Uses

STABILITY of glycerine values in this country stems from the steady consumer demand for consumer products in which glycerine is used. Hence, the greater diversification and the more new small uses that are achieved the more secure the industry becomes in realizing a steady demand for its by-product. The principal work and the main objective of the Association's research and publicity program is to protect present large industrial outlets and at the same time develop more small uses, both industrial and consumer.

Fair stocks and reasonable prices always create an ideal opportunity to tap new fields of consumption, giving preference to what are known as consumer products. Naturally, in such investigation, we look first to the food and beverage fields, in both of which glycerine is already freely used.

The well known applications of glycerine to foods are in colors, flavoring extracts, shredded cocoanut, cake icings, candies, etc. Glycerine as such has not found its way into general household use outside the medicine cabinet, and may have to be sold through the grocery store in a convenient household package to secure general consumption. Many of the household uses of glycerine which have been publicized by the Association.

In the beverage field, glycerine has always been a well known emollient for "bath tub gin" and is used as a smoothing agent by most blenders of distilled liquors. While we recommend a shower with good soap and a rub down as being nearly as stimulating as a cocktail, if you insist on the cocktail after the shower, you will find that a tablespoonful of glycerine to twelve cocktails produces a flavor and smoothness that will make the guests ask for your recipe. We stress the possibility of glycerine in foods and beverages and in the household for the two reasons that these are outlets of steady consumption, and are not vulnerable to substitution by the glycols which have been proven to have strong cumulative toxic effects.

Glycerine Derivatives

GLYCERINE derivatives seem to be developing interesting new uses. Glycerine, on account of its elastic chemical composition, lends itself to a wide variety of combinations with other substances. Among the most important of these derivatives to date are of course the well known combination of glycerine and nitric acid to form synthetic resins. This is a field that becomes especially interesting in connection with the present rapid development of new chemical products. A rather recent illustration of this trend is in the use of mono- and diglycerides to improve the quality of edible fats.

Used in a lesser way in medicine are the well known boron, phosphorus and essential oil combinations noted for their therapeutic value. Among the glycerine derivatives recently investigated and prepared by our research laboratories are:

Glyceryl dichlorhydrin
Glyceryl mono-chlorhydrin
Glyceryl diformin
Acetone glycerine
Acetaldehyde glycerine
Glyceryl tri-butyrin
Glyceryl di-isoamyl ether
Glyceryl 3-dimethyl ether
Furfural glycerine
Epi-chlorohydrin

A recent British patent on Glyceryl Lactate-Triacetate cites its uses as a plasticizer in practically all the products in which glycerine is now used. Time does not permit a fuller discussion of this subject, but emphasis should be placed on the possibilities of profit in converting glycerine into derivatives which find a wider application than pure glycerine.

A discussion of glycerine recovery and consumption is incomplete without some discussion of the substitutes which have come onto the market in the past fifteen years as a result of periodic scarcity and high

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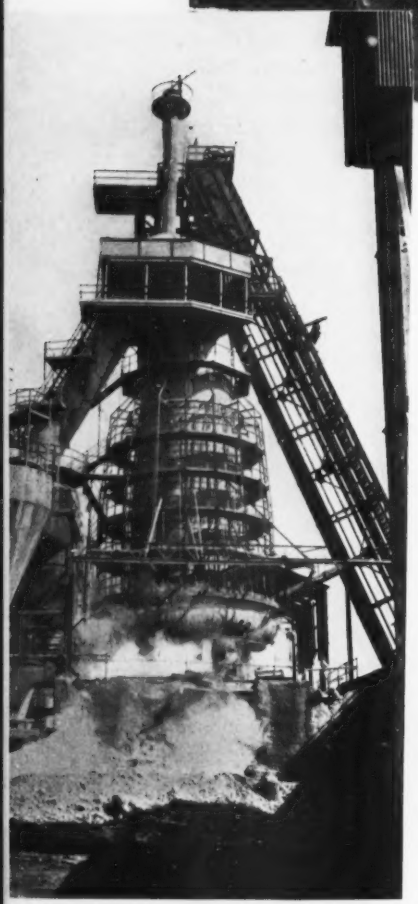
PHOSPHATES-



THE first lesson learned from observation of human behavior was recorded in the words "It is not good that man should be alone" and so a help meet was provided for him. This did not signify that man was not capable of performing certain useful functions in the world. but it did mean that his usefulness would be vastly increased if he had assistance.

Similarly, there are many things in this world that are intrinsically good. but which are better if they are used in connection with other things. One of these examples is soap. Soap with water performs many valuable services and does much good in promoting cleanliness and hygiene. Under many conditions, however, soap needs a helpmeet to yield its full measure of usefulness, and that help meet's name is "Phosphate."

Manufacture of phosphoric acid and phosphates has grown to a gigantic tonnage . . . for several of the more important phosphates, the detergent field represents the leading outlet.

Soap as a cleansing agent is commonly used to help water wash, as is quite generally known. For the most part, this water is natural water which has had very little treatment to prepare it for the role that it is required to play. Consequently, it is not to be expected that one grade of soap or any one soap formula will serve all purposes. Not only is the water variable, but such factors as temperature of wash water, the kind of goods being washed, the agitation provided, and the kind of soil to be removed.—all these vary and influence the selection of the soap stock and the assistants. It makes little difference whether these so-called assistants are incorporated

...their role in detergency

By J. M. Gillet

Victor Chemical Works

with the soap as builders or are added or used separately in the form of household washing powders and detergents. The functions performed are the same in all cases.

Sodium phosphates of one kind or another have been used in connection with soaps for household and industrial cleansing purposes for a great many years. Phosphates are both soap builders and water softeners, but the properties they exhibit and the mechanisms by which they function are as diverse as the structure of the various phosphate salts. Any discussion, therefore, of the properties of sodium phosphates and their value in the detergent field must be divided into a number of sections, one for each phosphate.

The phosphates used in detergency are of three kinds; the orthophosphates or the salts of orthophosphates acid (trisodium phosphate), the normal pyrophosphates which are salts of pyrophosphoric acid, derived from the dibasic orthophosphate by heating, and the metaphosphates, salts of metaphosphoric acid which are produced by heating the monobasic orthophosphates until they fuse. The orthophosphates are the oldest in use and will, therefore, be discussed first.

The principal orthophosphate used in connection with soap is trisodium phosphate. This is the old stand-by as a household cleanser and water softener, and is itself a detergent of notable properties. Trisodium phosphate is an alkaline salt, which in 1 per cent solution, yields a pH of 12 at room temperature. It lends a slippery feel to water and increases its wetting power. It has considerable emulsifying power, although the emulsions ordinarily are not permanent. It is sufficiently alkaline to saponify fat. It has certain specific dissolving power, but the most obvious and probably the most valuable function it performs is that of softening water.

Like soap, T.S.P. is a water softener, and the actions of trisodium phosphate and soap in softening water are very much alike. Each combines with the soluble calcium and magnesium salts in hard water to form insoluble compounds. The calcium and magnesium salts of soap, however, are slimy, sticky materials that adhere to textile fibers, washing machines, and anything else with which they come in contact, ruin the wash, and cause "tattletale grey."

When trisodium phosphate reacts with the calcium and magnesium in hard water, it converts them into insoluble calcium and magnesium phosphates. These phosphates drop out of solution and on standing gradually settle to the bottom of the container. They are not sticky or slimy, and do not adhere to the fibers. The calcium and magnesium are blocked out, so to speak, and cannot interfere with the foaming or detergency of soap.

This effect gradually wears off since the calcium phosphates are more soluble than the calcium soaps, and, in time, the insoluble soaps form at the expense of the phosphates.

Trisodium phosphate present in built soaps is in the form of crystals containing about 54 per cent water of crystallization, which are readily soluble, and tend to dissolve more quickly than does the soap. In combination with soap, trisodium phosphate exhibits all of these cleansing properties that characterize its use without soap, and it has other values as an aid to soap. It neutralizes acid-acting substances which might react with the soap and liberate free fatty acids; it tends to repress the adsorption of the soap on the fibers of the goods being washed, and thus conserves the soap for surface tension phenomena and sudsing. Trisodium phosphate is particularly valuable in those territories where hard water is common. It reduces enormously the losses of soap that would otherwise be encountered.

The Pyrophosphates

THERE are two salts of pyrophosphoric acid that are of importance in the soap industry, namely, the normal potassium pyrophosphate,—$K_4P_2O_7$—and the normal sodium pyrophosphate, —$Na_4P_2O_7$. The names "tetra sodium" and "tetra potassium" pyrophosphates have been used to describe these products.

The outstanding difference between the two normal pyrophosphates is one of solubility. The normal sodium pyrophosphate is

soluble in cold water to the extent of 6 parts in 100 parts of water, whereas potassium pyrophosphate is soluble to the extent of 125 parts in 100 parts of water. At 100° C., the solubilities are 40 parts for the sodium salt and 250 parts for the potassium salt in 100 parts of water. Aside from this solubility, however, there is little choice as to which phosphate should be used. With a potash soap, it is natural to use the potassium pyrophosphate, and with a sodium soap, the sodium pyrophosphate.

The properties of the pyrophosphates are, in some respects, quite different from those of the orthophosphates. They have a powerful peptizing action and a marked specific solvent action on certain organic materials, such as gums and waxes. They have a strong sequestering power for iron dissolved in water, and they have a colloidal effect upon the soap, which can be observed in the increase of the lathering power and detergency of the soap.

To "peptize" means to impart to minute particles of solid matter a tendency to repel each other so that small particles do not coalesce and form larger particles. This can be demonstrated by dissolving a mixture of trisodium phosphate and sodium pyrophosphate in hard water, for example, 80 parts of trisodium phosphate and 20 parts of the pyrophosphate. If trisodium phosphate alone is used, a fine precipitate forms which, on standing, tends to coagulate into larger particles and eventually settles to the bottom of the container, leaving a clear, soft water above. In the presence of the pyro, however, the precipitate that forms at certain concentrations does not settle on standing and does not clear up. This is because the small particles of insoluble phosphate are peptized and remain in suspension.

When sodium pyrophosphate is present in a washing solution, this peptizing effect is imparted to particles of solid dirt, to particles of grease, and to particles of insoluble soaps formed by the reaction of soap with the hardening impurities of water, so that they are uniformly suspended throughout the washing solution and do not collect upon the fibers of the goods being washed. Thus, emulsions and suspensions are stabilized, and any solid particles precipitated chemically are kept from growing to a size where they will be entrapped and held in the goods during the dewatering process.

Sodium pyrophosphate, in solution, has the power of dissolving some substances which are ordinarily only sparingly, if at all, soluble in water. Certain gums (for example, gum tragacanth) which tend to swell on being wet but not to dissolve, will dissolve quickly and completely in the presence of sodium pyrophosphate. This is highly important in the washing of goods contaminated with certain organic products, such as raw silks.

Pyrophosphate has the power to keep iron in solution and to dissolve iron oxide that has been freshly deposited on fabrics. It is found, for example, that if iron oxide in hydrated form, is digested at 40° C. for one hour, in water containing sodium pyrophosphate, one gram of ferric oxide will be dissolved for each four grams of anhydrous sodium pyrophosphate in the solution. This means that wherever wash water contains iron, the presence of pyrophosphate will tend to prevent it from depositing in and discoloring the goods being washed and, in many cases, this makes all the difference between white clothes and yellow clothes. This is important for household washing, for laundries, and in industrial plants where the discoloration by iron has been a difficult problem to overcome. Soaps containing sodium pyrophosphate, therefore, are especially effective in these iron water districts.

Most builders and assistants used with soap are designed either to soften the water or to prevent the adsorption of soap on fabrics, or to maintain alkalinity in the presence of acid-acting materials. Few of them, however, have any important effect upon the functioning of the soap in the absence of fabric and where the water is soft. The pyrophosphates have a marked effect upon the foaming of soap solutions in distilled water, which is obviously independent of both water-softening and fibre-surface phenomena.

It is in washing in hard water, however, that soap containing sodium pyrophosphate is most effective. All of the phenomena of peptization, iron sequestering, surface tension effects, and specific solubilities come into play, of course, but superimposed upon them all is the water-softening effect of the pyrophosphate.

As used in soaps, sodium pyrophosphate is not of significant value in softening water with respect to calcium. It does, however, have a strong capacity to repress ionization of magnesium salts. It does this without the necessity of the high alkalinity required by ordinary water-softening methods wherein the magnesium salts are precipitated. Hence, excessive quantities of reagent and high causticity are unnecessary in the presence of the pyrophosphates.

It has been observed that when sodium pyrophosphate is used with pure soap in hard water (and with built soaps as well), both the capacity of the soap to form suds and the physical character of the insoluble soaps present, are affected. For example, a mixture of 90 parts of a certain pure anhydrous soap and 10 parts of anhydrous sodium pyrophosphate had 20 per cent greater lathering power in a water of 250 parts per million hardness than the soap alone. Furthermore, the particles of insoluble soaps formed in this hard water were small and round, whereas ordinarily the calcium and magnesium soaps formed in hard water are in the form of stringy particles.

If an excess of soap is used in hard water without the pyrophosphate, a dispersion of the calcium and magnesium soaps is, of course, effected, resulting in much the same character of wash water as is observed with the smaller amounts of soap and the pyrophosphate. It appears that the effect of the pyrophosphate is to

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Higher Fatty Alcohols

Their synthesis particularly by hydrogenation as raw materials for the newer detergents

By Dr. Charles E. Mullin

THIS is the fourth article of a series by Dr. Mullin on the higher aliphatic alcohols with particular reference to those which are, or are likely to become of interest in the manufacture of detergent and wetting products. These papers cover the present sources, both natural and synthetic, of these higher alcohols, as well as other sources of the synthetic products, some of which are likely to become commercially important in the near future. —*The Editors.*

PERHAPS the first patent granted in the United States covering the production of the higher fatty alcohols by the direct hydrogenation of the corresponding carboxylic acids is No. 1,839,974, mentioned above, granted January 5, 1932, to W. A. Lazier, on an application dated March 5, 1931, and assigned to E. I. du Pont de Nemours & Company. This patent is of considerable interest for the reason that Lazier has studied his problem thoroughly and gives more than the usual detail and discussion of the subject.

The inventor reviews the production of the higher alcohols as practiced at that date and states that the alcohol-sodium process was still in use for such small quantities of the higher fatty alcohols as were required by the arts and industries. The then-known methods for the production of the higher alcohols, by both direct and indirect methods are discussed, and a co-pending patent application, dated April 17, 1930, covering the direct catalytic hydrogenation of the esters of alcohols, is mentioned.

He states that in the reduction of the fatty (carboxylic) acid to the corresponding higher fatty alcohol, "the only reducing agent required is molecular hydrogen which is applied in the presence of a suitable hydrogenating catalyst. One molecule of hydrogen is required to remove the oxygen from the C:O group of the acid in the form of a molecule of water, while still another molecule of hydrogen takes up the position of the oxygen atom removed, according to the equation

$$\begin{array}{l} \mathrm{R{-}C{-}OH} \\ \quad \| \quad\quad\quad \mathrm{O} \\ \quad \mathrm{H} \end{array} + 2\mathrm{H_2} = \begin{array}{l} \mathrm{R{-}C{-}OH} \\ \quad | \\ \quad \mathrm{H} \end{array} + \mathrm{H_2O},$$

where R represents an alkyl group preferably of the aliphatic or hydroaromatic series.

"A secondary reaction consists of esterification of a portion of the alcohol formed with a portion of the unchanged acid. The proportion of ester present in the product depends chiefly on the completeness of the hydrogenation, and when conducting the reaction under conditions which yield only partial reduction of the acid, the process may be altered to give esters as the main products according to the equation

$$2\mathrm{R{-}C{-}OH} + 2\mathrm{H_2} = \begin{array}{l} \mathrm{R{-}C{-}O{-}CH_2R} \\ \quad \| \quad\quad\quad\quad \mathrm{O} \end{array} + 2\mathrm{H_2O}.$$

"My process is characterized by hydrogenation of the acid with a suitable hydrogenating catalyst at temperatures and pressures somewhat higher than those ordinarily employed for such liquid phase hydrogenations as are carried out for the purpose of hardening fats and fatty acids. In conducting the reaction, I prefer to use an excess of hydrogen and a special hydrogenation catalyst hereinbefore described.

"If R in the formula above is an unsaturated radical, reduction or partial reduction of the carbon-carbon unsaturation may occur as in the usual hydrogenation process, but in the present process this is only incidental to the more important reaction which results in the formation of alcohols and esters. As an added step in my invention, I sometimes prefer, after conducting the reaction as indicated above to favor alcohol and ester formation, to hydrogenate the reaction products at low pressure and temperature with a nickel catalyst in the usual manner. This brings all the reaction products up to the same level of hydrogen saturation, yielding new compositions, usually solid products from which the alcohols and esters may be separated if desired.

This second hydrogenating step also saturates any unsaturated alcohols or esters that may be present as a result of using acids containing unsaturated acid radicals.

"One method of carrying out the invention consists of melting the acid, if a solid, and passing the liquid acid together with hydrogen under high pressure over a heated hydrogenation catalyst. Preferably the catalyst is a mixture of hydrogenating metals and their oxides prepared in a granular form and held in place in a suitable pressure resisting tube. Whereas carboxylic acids would ordinarily be decomposed at the high temperatures employed for the hydrogenation, I have found that under hydrogen pressure the acids are much less susceptible to decomposition than would be supposed from their behavior when heated in air. Under reducing conditions and in the presence of a catalyst the decomposition, if such it may be termed, takes place in a controlled manner and with the absorption of hydrogen and the production of alcohols or esters or both.

"Catalysts especially suitable for the purpose of the present invention may consist of a mixture of difficultly reducible oxides of hydrogenating metals. I prefer to use compositions in which the oxides are in the form of the chromites of the metals. An effective catalyst comprising a mixture of the chromites or chromates of different hydrogenating metals and containing also some of the oxides of these metals may be made in the following manner: A solution is prepared by dissolving 245 parts by weight of crystallized zinc nitrate, 23 parts of hydrated cadmium nitrate and 24 parts of copper nitrate (trihydrate) in about 750 parts of water. A second solution is prepared by dissolving 100 parts by weight of chromic anhydride (CrO_3) in 500 parts of water and then adding 135 parts of 28 per cent ammonium hydroxide. Precipitation of the hydrogenating metals of the first solution as chromates is effected by stirring and adding at room temperature the second solution. The mixture is exactly neutralized with additional ammonium hydroxide and allowed to settle. The clear supernatant liquid is poured off and the precipitate is washed several times by decantation with an adequate volume of wash water, after which it is filtered and dried at about 100°C. The next step consists of igniting the dried filtered cake at 400°C. for four hours. This process converts the double ammonium chromates of the copper, zinc, and cadmium to metallic chromites in which form they are employed as catalysts. Suitable physical form is obtained by granulating the friable chromite powder and briquetting it into the form of tablets, which may or may not be broken up into grains of various size. In some cases it is advisable to prereduce the hydrogenation catalyst with hydrogen or other reducing gas prior to loading into the converter. In other cases the catalyst reduction is carried out in situ by heating up slowly in a stream of reducing gas, prior to introduction of the acid to be hydrogenated.

"The following examples are illustrative of the method of carrying out my invention:

Example I: "Fifty cubic centimeters of the acid hydrogenation catalyst prepared as described above was placed in a steel reaction vessel capable of withstanding high pressures, and was slowly heated to 390°C. in a stream of hydrogen. The exit valve was then closed and the hydrogen pressure was allowed to rise to 3,000 pounds per square inch. At this temperature and pressure pure lauric acid was pumped over the catalyst at the rate of about 200 cubic centimeters per hour while hydrogen was simultaneously drawn through the system at the rate of about 15 cubic feet per hour as measured at ordinary conditions of temperature and pressure at the exit of the reaction system. The pressure was controlled at a constant value by maintaining a large supply of hydrogen at the required pressure. The flow of acid was regulated by adjusting the rate of pumping, and the rate of hydrogen flow was controlled by manipulation of the gas expansion valve at the end of the reaction system. The liquid products were separated from the exit gas by passage through a cooled trap located between the reaction tube and the expansion valve.

"Ninety-six per cent by volume of acid injected was recovered as liquid products consisting of a very small water layer and a very much larger oily layer. The oily layer was separated and subjected to analysis. The acid number was 31, indicating the presence of only 11 per cent of unchanged acid. The saponification number of 38 represented a lauryl laurate content of about 25 per cent while the acetyl number of 149 indicated the presence of about 61 per cent of lauryl alcohol. Hydrocarbons were formed in very small amounts if present at all. The presence of large quantities of lauryl alcohol in the product was confirmed by distilling it out of the crude condensate under diminished pressure...."

Example IV: "In this experiment a good commercial grade of mixed coconut oil acids were hydrogenated continuously in high yields to the corresponding mixed alcohols. The zinc, copper, cadmium chromite catalyst already described was used at a temperature of about 380°C. The acids were pumped over 100 cubic centimeters of the catalyst at the rate of about 200 cubic centimeters per hour. The hydrogen pressure was 2,500 to 3,000 pounds per square inch and rate of flow of the hydrogen about 15 cubic feet per hour. Analysis of the crude product gave 6 per cent ester calculated as lauryl laurate and 0.8 per cent acid calculated as lauric acid. 850 grams of coconut oil acids yielded 681 grams of mixed alcohols, corresponding to a yield of about 85 per cent of the theoretical. By fractional distillation in vacuo it was found that the mixed synthetic alcohols contained about 25 per cent of normal decyl alcohol, about 55 per cent of lauryl alcohol, and about 10 per cent of alcohols of higher molecular weight.

Example V: "The acids from castor oil were hydrogenated in ac-

cordance with the procedure set forth in Example IV and were thereby converted into a viscous product containing about 40 per cent of esters and practically no free acid. The acetyl number of this product was 178.

Example VI: "Oleic acid provides a very suitable starting point for the synthesis of oleyl and stearyl alcohols and their esters. Owing to its low melting point, oleic acid is more convenient to pump than stearic acid, and the selection of optimum conditions for its hydrogenation has been more thoroughly investigated than for some of the other acids. Pure oleic acid was pumped over 100 cubic centimeters of the preferred catalyst at the rate of 400 cubic centimeters per hour. The hydrogen flow was about 15 cubic feet per hour and the pressure 2,800 pounds per square inch. The temperature was varied between 350°C. and 420°C. and the product collected at each temperature was analyzed for acid, ester, and alcohol. The results are shown in the table below.

It is apparent that the lower temperatures favor the formation of waxes, which at the higher temperatures are hydrogenated further to the free alcohols. The optimum temperature is about 390° C.

"Although the efficiency of hydrogenation of the carboxyl group may be very high, the saturation of the carbon-carbon linkages in the unsaturated acids, alcohols, and esters may be only partial. In a typical run with oleic acid the acid was 65 per cent hydrogenated as judged by the decrease in the acid and saponification numbers while the iodine number decreased from an initial value of 88 to a value of only 50. The product from the hydrogenation of oleic acid therefore contains both oleyl alcohol and stearyl alcohol. Oleyl alcohol may be separated from the mixture by use of a selective solvent.

"In order to obtain pure stearyl alcohol a portion of the mixed alcohols was subjected to hydrogenation in the liquid phase in the presence of a reduced nickel catalyst. A 1000 gram sample of the mixed alcohols was vigorosuly stirred with 50 grams of nickel on kieselguhr catalyst at 125 to 150° C. under a hydrogen pressure of 150 pounds per square inch. Hydrogen absorption was rapid and complete after one and one-half hour. On cooling, the product congealed to a white solid having an iodine number less than 10 and consisting chiefly of stearyl alcohol.

"Acids which are solid at ordinary temperature have been hydrogenated by melting them and pumping them into the reaction system while still in the liquid state. A more convenient method consists of dissolving the solid acids in a suitable solvent and treating the solution as for a pure acid as indicated in the following example:

Example VII: "Thirty-eight hundred and fifty cubic centimeters of a solution containing 750 grams of stearic acid in normal butanol was pumped over the catalyst described above at the rate of 200 cubic centimeters per 100 cubic centimeters of catalyst per hour. The temperature was 390 to 400° C., the pressure 2500 to 3000 pounds and the hydrogen flow about as indicated in the other examples. The recovery of material was nearly quantitative. The butanol was distilled off and the high boiling material subjected to vacuum distillation. Seventy-seven per cent distilled over as a stearyl alcohol cut which was free from acid and had a saponification number of 6 and an acetyl number of 153. The residue was composed of about two-thirds wax and about one-third alcohol.

Example VIII: "A solution of 180 grams of sebacic acid in 900 cubic centimeters of absolute ethyl alcohol was hydrogenated in a manner similar to that of Example VII, yielding the corresponding glycol. The crude condensate was distilled to remove the ethanol and the oily residue was subjected to analysis. This material was found to have an acid number of 9, a saponification number of 64 and an acetyl number of 260. From these values, it was estimated that the hydrogenation of the carboxyl groups of the sebacic acid had been about 80 per cent complete.

"While the catalyst previously described is preferred because of the high conversion obtained, it is to be understood that other suitable hydrogenating catalysts can be used. The catalyst composition contributes in an important way to the yield of alcohols and freedom from side reactions, but it is only necessary to employ any good hydrogenation catalyst under the conditions described in order to effect the reduction of acids. Such a catalyst may be composed of one or more metals or metallic oxides prepared in an active form and preferably selected from the group known as the hydrogenating metals or metallic oxides. Some well known members of this group are copper, cadmium, nickel, cobalt, tin, zinc oxide, magnesium oxide, and manganese oxide. These may be combined with promoters of the oxide type in the form of mixtures or compounds with the same.

"In general the catalysts which have found use in methanol synthesis are applicable to the present process. Particularly good results have been obtained in acid hydrogenation by preparing such a catalyst according to the method described in United States Patent 1,746,783, wherein a double ammonium chromate of a hydrogenating metal is heated to form a chromite catalyst. As indicated in the examples, success has attended the use of mixtures of the chromites of two or more hydrogenating metals.

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Composition of Product

Temperature ° C.	*Per cent of acid*	*Per cent of ester*	*Per cent of alcohol*	*Per cent total*
350	19	36	39	94
360	8	36	50	94
370	6	34	58	98
390	2	30	68	100
400	2	29	67	98
410	2	26	65	93
420	1	21	60	82

PERFUME OILS of Kenya

Development and production of oils of mawah, geranium, lavender, cedarwood and others in East Africa

By Dr. Ernest Guenther
Fritzsche Brothers, Inc.

OIL of mawah was brought to the attention of the perfume and soap industry only a few years ago when quite a number of references to it appeared in English trade magazines, all dealing with the development and production of essential oils in the British Empire.[1] Aside from other interesting oils, these articles describe in detail the experiments of the Department of Agriculture, Kenya Colony, and the efforts of individual planters to produce in Kenya, East Africa, an oil of geranium which in regard to quality and price might compete with the French (Algerian and Reunion) geranium oils and thereby create another source of supply for these important oils which at present are very much exposed to pure speculation. High hopes for success had been put into this enterprise and much work and money have been expended.

From the very beginning the task was beset with great difficulties in regard to the selection of the proper plant material. "Geranium" or "rose geranium" is only a rather vague botanical term comprising many varieties and subvarieties with much hybridization.

While it was originally hoped to produce in Kenya Colony a high class geranium oil very similar to the French (Algerian and Reunion) type, experience soon showed that efforts in this direction could meet with little success, if not actually complete failure. Today we see the whole matter much more clearly and can discard the many experimental qualities of Kenya geranium oil described in the literature of a few years ago. Summarizing the situation, this can be said: That it seems very difficult to grow in Kenya, at least in the high altitudes around Njoro, a type of geranium oil similar to French geranium. On the other hand, production of a somewhat lower type, the so-called mawah, proved quite successful and as a result nominal quantities of mawah oil are now being distilled annually around Njoro.

The name mawah or mauah which is Swaheli, and simply means "flower," was first given to this plant by Kenya's foremost pioneer essential oil distiller, J. L. Greene. Its botanical origin is not very clear. What we mean by "geranium" or "rose geranium" in terms of the essential oil industry, is not true geranium but only a horticultural name. All so-called geranium oils are distilled from different *Pelargonium* varieties (*Pelargonium graveolens*, mostly), subvarieties and mutations, the only exception being the Bulgarian Zdravetz which is real geranium. The Cape Province of South Africa is the only section where *Pelargonium* grows wild, and from there cuttings of *Pelargonium* were exported to Europe during the eighteenth century, crossed and hybridized in English greenhouses by botanical institutes and gardeners. It seems probable that all the commercial varieties of *Pelargonium*, such as the Southern French, the Spanish, the Algerian and the Reunion ("Bourbon") "geranium" and also the "mawah," are descendants of these *Pelargonium* hybrids created in England and Europe in general and reexported to the African colonies. This theory of hydridization would explain the general difficulty of getting germination from the seeds of *Pelargonium* ("geranium"), also the fact that the seeds, when they do germinate, very seldom come true to their parent plants but are practically always "sports" or different varieties or subvarieties. As a result of the difficulty of seed germination, commercial propagation of "geranium" has to be done by cuttings.

It is probable that the first mawah plants were brought to Kenya by some Dutch emigrants from South Africa who grew the plants in their gardens and used them as brushes for house cleaning, thereby giving their rooms a fresh and pleasant scent. At any rate, the plant as a possible source of aromatic oil distillation was noticed in the gardens of Kenya and first multiplied by J. L. Greene and W. J. Dawson at Njoro in 1926. Mr. Greene, who had been active in the French essential oil trade before the war, formed a company with the help of his French and English friends, The Kenya Essential Oil Ltd., Njoro. They extended their mawah plantations around a centrally located modern distillery. Mr. Dawson, on the other hand, followed a somewhat different course. After first expanding his mawah plantings on his own farm, he later switched to "geranium" of the French (Algerian and Reunion) type.

Both producers encountered enormous difficulties in making their enterprises profitable. Pioneer work in the essential oil industry is always very costly because of the many uncertain factors which have to be established: selection through years of experimenting of the most suitable locality for the plantations; mortality of the plants and planting; proper period of distillation; method of distillation; yield of oil; rentability of the plantation; quality of oil and, most of all, hesitation and reluctance on the part of the trade to introduce a new, somewhat different type of oil.

Mr. Greene's mawah grew well around Njoro and gave a satisfactory yield of oil but his main difficulty was in the commercial introduction of the oil. It took years and years to interest the perfume and soap industries in this new type of geranium which is quite different

Top—field distillery for essential oils in Kenya Colony. Center — harvesting the mawah crop in Kenya. Bottom—charging the still with plant material in a Kenya central distillery.

from the regular French (Algerian and Reunion) oils. Mr. Greene's enterprise suffered also from the enormous, often purely speculative, price fluctuations of the Reunion oils which, altogether, made the growing of mawah on a sound cost basis quite hazardous. Mr. Dawson, meanwhile, struggled against tremendous odds in his efforts to grow the French (Algerian and Reunion) type of geranium around Njoro. The plants, raised from imported cuttings, seemed to degenerate under the climatic conditions prevailing in the highlands of Kenya and the yield of oil per acre proved much too low.

At present there are under cultivation on Kenya's highlands a total of about 1500 acres of mawah and French type geranium, 1300 acres being of the mawah type and only about 200 acres of the French geranium type. From four to six tons of both oils are being produced annually. Eighty per cent of this output is exported to the United States.

Mawah, according to V. A. Beckley,[2] is a cross between *Pelargonium graveolens* and *Pelargonium radula*, but this is by no means certain, as none of the strains come true as seedlings. Mawah seems to be a hardier plant, better than the French geranium in resisting the high altitude, the cool nights and the general dryness around Njoro. Every strain of this mawah type, upon steam distillation, gives a fair yield of essential oil. It has varied from 0.1 to 0.15 per cent for mawah oil, which compares favorably with the oil yield of the French geranium as obtained in Algeria and Reunion Island. On the other hand, the French type of geranium cultivated in Kenya has given considerably less yield.

As to production in general, it should be noted that it is not scattered like that of Reunion Island where hundreds of small proprietors and sharecroppers ("colons") grow the plants and distill the oil in small and primitive migratory direct fire stills. Mawah oil is produced around Njoro in the form of a centralized enterprise, wide plantations extending around a centrally located modern steam distillery. The enterprise is managed by white planters; hired natives do all the manual work such as planting, harvesting and distilling.

For propagating purposes, cuttings are taken during the rainy season, rooted in nurseries and after a few months, during fair weather, planted by hand into fields which have been prepared previously for planting. The rows are two yards apart to permit plowing through with a vineyard disk harrow.

The period of harvesting depends entirely upon the rainfalls which vary in regard to intensity and arrival. Usually the first crop can be gathered less than one year after the transplanting of the young plants. A fully developed planting is cut in its entirety once a year, but under favorable weather conditions a second crop, at least partially, can be obtained. The plants are cut when fully grown, i. e. when developing flowers. So far crops have been reaped in every month except March. All cutting is done by hand, with scissors, by hired native boys and girls under the supervision of one or two Europeans. The average lifespan of a plantation is about five to six years when the planting has to be renewed, with corresponding crop rotation.

The cut plant material is distilled within forty-eight hours, this period of storing softening the stalk and leaf material which facilitates packing of the stills. It has no effect upon the yield. The stalks are distilled together with the leaves although the oil is contained only in the leaves. Distillation is carried out in stills of one ton capacity, with live steam generated in a separate boiler. Distillation of one batch lasts about four hours; the yield of oil varies between one to one and a half per thousand. The distillation waters are discarded without attempt at cohobation.

Oil of mawah must be considered a somewhat lower type of geranium oil, its perfume and strength being admittedly a little inferior to that of genuine French (Algerian and Reunion) geranium. Thus, the relation of mawah to geranium, even with respect to price, is somewhat like that of lavandin to lavender.

Little known, so far, in the soap and perfume industry, oil of mawah has been employed mainly for the cutting of geranium oil into which it blends very nicely. It is in the interest of, and important to the soap and perfume industry, to become thoroughly acquainted with mawah oil and its possibilities as a cheapener of French geranium oil, so that it may be employed as a "stretcher," if not as a partial substitute of French geranium oil whenever the latter's price mounts excessively.

French geranium oil, unfortunately, is exposed to much speculation, however justified by cyclone damage, crop failures and other legitimate reasons. Mawah oil, therefore, in the writer's opinion, could act as a kind of brake against too sharp rises in geranium oil prices. Of course, the fundamental condition remains that mawah oil can always be produced cheaper than geranium oil. This, however, has not been easy during the last few years of devaluation of the French franc. Looking at the oil as a substitute for geranium oil, mawah will always remain "hitched" to the price of French geranium oil and that is not a very desirable feature from the producers' point of view. They would much prefer it if mawah oil could be introduced in the soap and perfume industry as a new oil which could be used in perfume work like other, similar oils, as for instance palmarosa, and with no connection whatsoever with French geranium oil. Once established in their formulas, perfumers would be loath to change and mawah oil would have found its place.

Nothing stands in the way of large expansion of mawah oil production except the problem of price. As long as mawah remains connected with French geranium oil and as long as French geranium oil prices remain abnormally low as a result of the strongly devaluated franc and absence of cyclones in Reunion Island, production of mawah

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Fifty years a soaper . . .

A few reminiscences on how times have changed in the soap industry

By C. F. Young
Davies-Young Soap Co.

C. F. Young

FIFTY years in any business is a long time, particularly when one looks back and views the changes which have taken place. It was just fifty years ago, in December, 1888, that I went to work for J. P. Davies who had embarked on the manufacture of soap the year before. He had gone into the soap business as a result of the representations of a soap maker of another concern which had from time to time bought up odd lots of tallow and grease from him. The Davies business had prior to that time been in the manufacture of lard and tallow oils since 1844. The first soap which we made was a three-quarter pound pressed and wrapped bar of yellow laundry soap, carrying as much rosin as the law allowed, and so heavily loaded with silicate and soda ash that with a little age, it took on the appearance of having been exposed to a heavy frost. The next step in the soap-making evolution was to use as much tallow stearine as possible, the result being a soap so hard that it would have been quite suitable for building or paving bricks.

Back in those days, a large oil company was searching around to find outlets for its paraffin which was somewhat of a drug on the market. We used to buy this paraffin in barrels and it was common practice for the workmen to dig it out and use it for chewing gum.—after cleaning off the free petroleum oil which collected on top. In order to find out if there was a sizeable outlet for paraffin in the soap business, the oil company sent a soap maker to us and he stayed around the factory for several months experimenting. Finally, one day, he walked into the office with the handsomest cake of soap we had ever seen. It shined like a waxed floor. He told us that it contained fifty per cent of paraffin, —and to old-time soapers this meant 100 pounds of tallow and 50 pounds of paraffin. Salesmen were turned loose on it and before it was discovered that this beautiful cake of soap would not lather, a great deal of it had been sold and shipped. Little imagination is needed to appreciate what happened.

Back in the old days, soap manufacturers vied with each other to see how big a bar of soap they could put out for five cents. We then made a Big Bar Soap,—but two bars for a nickel. There was a great deal of that type of soap on the market then. Every little town of any size at all had its soap factory, with its own following in the trade. Competition was very keen and the quality of the soaps was uniformly poor. In fact if any soaper attempted today to market a soap of the type which was common forty or fifty years ago, he would have to surround himself with a battalion of infantry for protection against the public wrath. In fact, of all the changes which have taken place in the soap industry in the past half-century, including improved machinery and manufacturing methods, the wide improvement in quality of all types of soaps on the market, is unquestionably the outstanding single achievement. The fine quality soaps which the public can purchase today at such low prices in my mind represent an accomplishment of which the soap industry can be proud. He who prates about the fine soaps of the "good old days" is talking through his hat. The public is getting more and better soap for less money today than it ever got since soapmaking began.

To get back to our reminiscences.—it was in 1891 that we discontinued the manufacture of bar soap and started making chip soap for laundries. I may not be sure about this, but I think we were the first ones west of New York to attempt to make a chip soap for laundry purposes. I think the Los Angeles Soap Co. came along with a chip soap about 1893. The chips we made those days were very crude. We ran the soap in frames and through the slabber and chipper and at first simply dried the chips on the floor of the factory. The chips were about

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New Products and

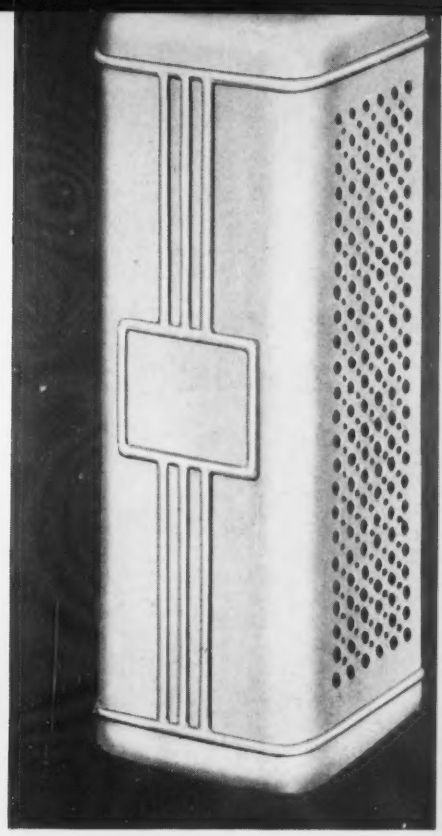
OCEAN DIP
BATH SALT
VRAIE VIOLET ODOR
COMBINES THE TONIC PROPERTIES OF A SEA SHORE SWIM WITH REFRESHING FRAGRANCE OF SUN DOWN VIOLETS
THE SPECIALTY PRODUCTS CO.
CREATORS & MANUFACTURERS OF PERFUMES & FINE TOILET ARTICLES
NEW ORLEANS U.S.A.

"Ocean Dip" bath salts, a product of Specialty Products Co., New Orleans, has been newly packaged in a smart glass container with a molded cap made by Armstrong Cork Co., Lancaster, Pa.

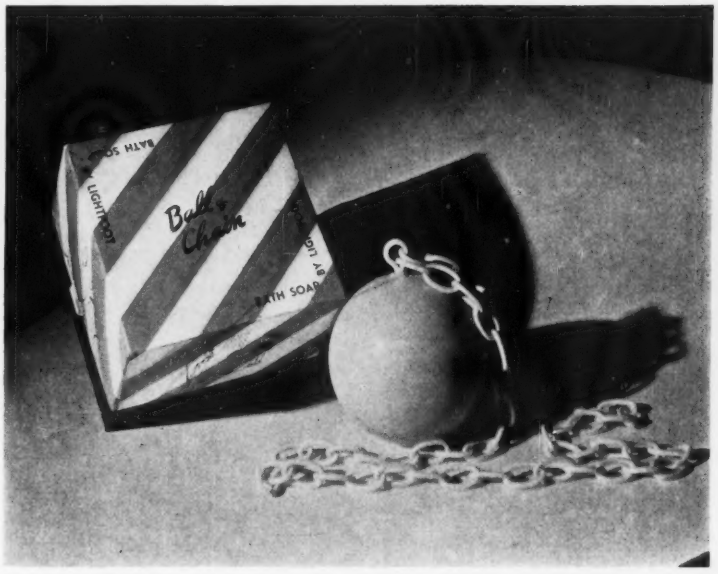
Lavo Corp. of America has recently repackaged its washing preparation "Mag" using a molded cap supplied by Armstrong Cork Co.

Socony-Vacuum Oil Co., New York, introduced a new line of waxes, and cleaners under the "Tavern" brand a few months ago. An aggressive advertising campaign is planned on them for 1939.

Packages



Hysan Mfg. Co., Chicago, has just developed a new deodorant block cabinet which will be offered in a variety of colors and finishes. Steel construction and tamper proof lock are features.



A new soap novelty just introduced by Lightfoot Schultz Co., Hoboken, is "Ball and Chain" designed for shower use. The spherical cake of soap hangs on a chain of white waterproof celluloid.

National Brands Stores, Inc., Chicago, has just introduced "Carnival Complexion Soap" in a special deal. A "Cannon" face cloth and four cakes of soap, wrapped in cellophane, retail at 19 cents.

RAW MATERIALS

for the soap and allied industries

News....

Buy Amole Soap Co.

Amole Soap Co., Tippecanoe City, Ohio, was purchased early last month by R. H. Timmer and T. G. Timmer of that city and will be operated by them under the name of the Amole Soap Products Co. The firm will continue to manufacture a line of liquid soaps, shampoos, shaving soaps, cosmetics, and tooth paste. A new sales staff is being organized. The plant personnel will remain unchanged. The former operators of the company were W. C. Staley, president, R. W. Hall, vice-president, and A. L. Harshberger, secretary and treasurer.

Clorox Enjoins Chlorit

Clorox Chemical Co., Oakland, Cal. won a court victory in its action against Chlorit Mfg. Corp., Brooklyn, recently when Judge Grover Moscowitz in the U. S. Federal Court, Eastern District, granted a temporary injunction against the latter firm restraining them from use of the name "Chlorit" to describe their washing and cleaning preparation. The injunction also restrained the defendant from use of a label which Clorox claimed was unduly similar to one they use on their product "Clorox." The Chlorit concern has been operating for about two years and approximately a year ago sought to register their trademark with the U. S. Patent Office. The registration was opposed by Clorox and was refused in May, 1938. The Clorox attorneys in the recent action were Cook, Nathan, Lehman & Greenman of New York.

Thomssens in England

Dr. E. G. Thomssen, technical director of the J. R. Watkins Co., Winona, Minn., and Mrs. Thomssen, arrived in England just before Christmas for a stay of four months. They sailed from New York on December 16 on the *Queen Mary*. Dr. Thomssen is supervising the installation of equipment at a new Watkins plant at Birmingham to take care of the company's needs in the United Kingdom market. A full line of Watkins household products including foods, medicines, and chemical specialties will be manufactured in England. Heretofore, the English market has been supplied from the Watkins' Canadian plant, but increased business in the United Kingdom has necessitated the new factory. Dr. and Mrs. Thomssen are expected to return to the United States late in April.

Dr. Thomssen cameraed at SOAP's editorial offices on his recent visit to New York.

P & G Plan Warehouse

Procter & Gamble Co. is reported to be building a new warehouse at 1614 N. Magnolia Street, Chicago. The new building, which will be 100 by 200 feet and will cost in the neighborhood of $140,000, is to be connected with the P & G North Avenue plant by a conveyor bridge.

Sigler with Glasco Products

Carl H. Sigler, former eastern sales manager for Jergens-Woodbury Sales Corp., has just been appointed sales manager of Glasco Products Co., Chicago.

Safrin Joins Eavenson

Dr. Leopold Safrin, until recently technical director of a soap manufacturing firm in Germany, has become associated with the staff of J. Eavenson & Sons, Camden, N. J. soap manufacturers, as a research chemist, according to an announcement by I. Katz, general manager. Eavenson is a division of Wilson & Co., Chicago meat packers. Dr. Safrin was the author of an article on a comparison of European and American methods of soap cooling which was published in the December, 1938 issue of SOAP.

Extend Brit. Laundry Research

Important extensions to the laboratories of the British Launderers' Research Association have just been made by A. P. Mieras. The experimental laundry attached to the laboratories is run on commercial lines, and all plant, processes, materials, etc., under test are examined under actual laundry conditions. Preliminary trials are carried out with "dummy" loads to ensure that no harm will be done to the property of customers. A new washing process has been developed and placed at the disposal of members as a result of the research work, it is stated. The process is said to save 25 per cent of the washing time with a consequent reduction in wear.

Forms Thorofoam Soap Co.

Thorofoam Soap Products Co. has recently been formed by S. Mochanoff and will operate at 1684 Logan Avenue, San Diego, Calif.

McClosky Leaves P. & G.

Robert G. McClosky, formerly with the field department of Procter & Gamble, has just joined the service department of Fuller & Smith & Ross, Cleveland.

T. B. Robertson Marries

T. B. Robertson, Jr. was married to Miss Juanita Watson, Terre Haute, Indiana on Saturday December 24th in the Hilton Memorial Chapel in Chicago. Following a short honeymoon they will make their home in Chicago. Mr. Robertson is a salesman for T. B. Robertson Products Co., Chicago soap manufacturers.

Oil Trades Meet Jan. 24

The next quarterly meeting of the Oil Trades Association of New York is scheduled for the evening of Jan. 24th at the Hotel Waldorf-Astoria. Arrangements for the gathering will be handled by Joseph C. Smith, association president in view of the illness of Albert Squier, chairman of the entertainment committee. Mr. Squier has been seriously ill for several months, but recently left St. John's Riverside Hospital to return to his home.

Perform Verley Composition

Dr. Albert Verley, who has recently announced his intention of spending a major share of his time in United States as head of Verley Chemical Co., Chicago, visited St. Louis recently to hear the St. Louis Symphony Orchestra play for the first time his most recent musical composition "The Pastel Sonore." Dr. Verley has long made music his avocation and has been a student of music since childhood. A laboratory explosion at the age of 17 maimed his right hand and cut short his piano career, but he continued his musical studies and has found an outlet in creative rather than interpretative work.

Fairbanks Soap Appoints Agent

Fairbanks Soap Co., Toronto, Canada, has just appointed A. J. Denne & Co., also of Toronto, to handle its advertising.

British Soaper Leaves $188,965

Sir Arthur H. Crosfield, late chairman of Joseph Crosfield and Co., British soap manufacturers, and a former member of Parliament, who died in a train accident in France late last Summer, left an estate of £37,793 ($188,965).

Oil Bleaching

High temperature decolorization and refining of oils and fats . . . a study of methods, equipment, patents . . . and the possibility of extending its application in treating soap oils. "Heat Bleaching of Fatty Oils" by Paul D. Boone . . . in an early issue of SOAP.

Landis Receives Perkin Medal

Dr. Walter S. Landis, vice-president of American Cyanamid Co., was awarded the Perkin Medal for 1939 at a joint meeting of the American Section of the Society of Chemical Industry and the American Chemical Society held at the Chemists' Club, New York, January 6. Dr. Landis became connected with American Cyanamid in 1912 and has been vice-president since 1922. He formerly held various teaching positions at Lehigh University and is the author of many articles and textbooks on chemical subjects.

Swope Joins Montgomery Bros.

Morris C. Swope, formerly of Alex. C. Fergusson Co., Philadelphia, has just accepted the position of sales manager for Montgomery Bros., Philadelphia, manufacturers of rubber cements, latex, and synthetic rubber compounds. Mr. Swope will merchandise their entire line as well as continue the distribution of Union Oil of California aromatic solvents.

D.C.A.T. "Industry Forum"

Drug, Chemical and Allied Trades Section of the New York Board of Trade will hold "The Industry Forum — 1939" on January 17th at the Hotel Astor, New York. Important leaders in the various divisions of the industry will give their views on the outlook for 1939 and various problems such as legislation, regulations, employment situation, etc., will be discussed. A luncheon will precede the forum at 12:30 p.m.

"Bab-O" Christmas Campaign

B. T. Babbitt & Co. recently ran an advertising campaign in California newspapers, prior to the Christmas season, featuring an offer of 18 Christmas cards for one label from a can of "Bab-O" and 25c. An extra premium of 16 Christmas seals was offered for promptness.

F.T.C. Rules on Chlorine Prices

The Federal Trade Commission has ordered nine companies manufacturing liquid chlorine to refrain from maintaining uniform prices for their products. The companies involved are: Mathieson Alkali Works, Electro Bleaching Gas Co., Solvay Sales Corp., Hooker Electrochemical Co., and Columbia Alkali Corp., all of New York; Diamond Alkali Co., Pittsburgh; Belle Alkali Co., Belle, W. Va.; Monsanto Chemical Co., St. Louis, and Pennsylvania Salt Manufacturing Co., Philadelphia.

Wants American Soap

A firm in San Juan, Puerto Rico, is interested in the establishment of an agency arrangement for the sale of laundry soaps of American manufacture. Interested parties may obtain further information by writing to the U. S. Department of Foreign & Domestic Commerce, Washington, D. C., mentioning file number 8636.

Firmenich Appoints Ellis

Firmenich & Co., New York, American distributors for the Chuit, Naef line of aromatic chemicals, have just appointed Edgar R. Ellis as salesman in the New York metropolitan district. Mr. Ellis was formerly on the staff of the *Oil, Paint and Drug Reporter*.

Oakite Holiday Offer

Oakite Products Co. recently featured a Christmas advertising campaign during which they offered a silver cleaning plate free with two packages of "Oakite." The offer was advertised in newspapers throughout the country and grocery trade magazines and radio were also used.

Soap Values Up in 1937

SOAPS valued at $301,291,547 were produced in 1937 by American manufacturers, as compared with $239,000,000 in 1935, and $200,000,000 in 1933, according to a report of the U. S. Bureau of the Census dated Dec. 21, 1938. During 1937, wages paid in the soap industry showed an increase of about 25 per cent over 1935, and the value of raw materials, containers, etc., purchased jumped an equal amount. In all, the industry bought over $185,000,000 worth of materials in 1937. The report of the Census Bureau stated as follows:

"This industry, as classified for Census purposes, embraces establishments engaged primarily in the manufacture of soap in bars and cakes and in granulated, powdered, and liquid form, and of cleansers, scouring powders, and washing compounds *containing soap made in the same factories.* (Manufacturers of similar preparations containing no soap are classified in the Cleaning and Polishing Preparations industry. Some of these manufacturers also make cleansers, etc., containing soap, as secondary products, using purchased soap as a material.)

"Summary statistics for 1937, with comparative figures for 1935 and 1933, are given in the table below. The figures for 1937 are preliminary and subject to revision. Detailed statistics on production will be given in a release to be issued later."

Filipino Coconut Oil Plan

Suggestions for regulating the Filipino-American trade in coconut oil and copra from 1940 to 1960 are included in a recent report of the Joint Preparatory Committee on Philippine Affairs of the U. S. State Department. It is recommended that coconut oil shipments from the Philippines to United States should be subject to annually declining duty-free quotas commencing with 200,000 long tons in 1940. The duty-free quota would be reduced each year by 5 per cent, or 10,000 tons, and would be extinguished in 1961. Shipments in excess of the quota would be subject to the full U. S. Duty until 1946. From 1946 to 1961 oil in excess of the quota would be subject to a preferential tariff rate starting at 25 per cent of the general U. S. rate and increasing by 5 per cent each year.

F.T.C. Hears Wrisley Case

Allen B. Wrisley Co., Chicago, recently presented its final argument before the Federal Trade Commission in answer to charges of misrepresentation in the sale of soaps containing olive oil. The main point of the discussion was whether a soap sold as olive oil soap is misbranded if it contains any other oils in addition to its olive oil content. The attorney for the company argued that consumers generally did not expect the entire oil content of a soap to be olive oil unless that fact was specifically stated on the label and in advertising. The company also claims that it has never used advertising which would lead purchasers to believe that its soap products contain only olive oil.

Schroth of P. & G. Dies

John A. Schroth, superintendent of the Ivorydale plant of Procter & Gamble Co., died recently after a brief illness. He was fifty-nine years old and had been associated with the company for thirty-six years.

Egyptian Soap Imports Decline

The amount of soap imported into Anglo-Egyptian Sudan was reported at 1,731 tons valued at EL 39,507 in 1937, a decrease from the 2,109 tons valued at EL 41,719 imported in 1936. The decline is due to the fact that local factories are now able to produce soap of a quality that compares favorably with cheap imported household soap.

Wants American Soap

A concern in Nairobi, British East Africa, is interested in purchasing soaps of American manufacture. Full details may be obtained by addressing the U. S. Department of Foreign and Domestic Commerce at Washington, D. C., mentioning file number 8286.

Magnus Chemical Appoints

Magnus Chemical Co., Garwood, N. J., recently appointed Spooner & Kriegel to handle the advertising of Magnus industrial cleaners and soaps.

To Handle Soap Accounts

Raymond R. Morgan Co., Hollywood, will have charge of the radio, magazine and newspaper advertising of White King Soap Co. and Los Angeles Soap Co., both of Los Angeles, after January first.

Summary for the Industry: 1937, 1935, and 1933

(Because they account for a negligible portion of the national output, plants with annual production valued at less than $5,000 have been excluded since 1919)

	1937	1935	1933
Number of establishments	232	238	235
Wage earners (average for the year)[1]	14,008	13,911	14,304
Wages[2]	$19,074,574	$15,339,045	$14,140,241
Cost of materials, supplies, containers, fuel, and purchased electric energy[2]	$185,169,789	$139,423,048	$93,507,390
Value of products[2]	$301,291,547	$239,152,130	$200,127,929
Value added by manufacture[2]	$116,121,758	$99,729,082	$106,620,539

[1] Not including salaried officers and employees. Data for such officers and employees will be included in a later report. The item for wage earners is an average of the numbers reported for the several months of the year. In calculating it, equal weight must be given to full-time and part-time wage earners (not reported separately by the manufacturers), and for this reason it exceeds the number that would have been required to perform the work done in the industry if all wage earners had been continuously employed throughout the year. The quotient obtained by dividing the amount of wages by the average number of wage earners cannot, therefore, be accepted as representing the average wage received by full-time wage earners. In making comparisons between the figures for 1937 and those for earlier years, the possibility that the proportion or part-time employment varied from year to year should be taken into account.

[2] Profits or losses cannot be calculated from the Census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

[3] Value of products less cost of materials, supplies, containers, fuel, and purchased electric energy.

For Packaged or Bulk Cleaners

METSO

SODIUM METASILICATE
SODIUM SESQUISILICATE

6 GRADES—6 DISTINCTIVE QUALITIES

CLEANERS which contain large proportions of Metso Sodium Metasilicate or Metso 99 (Sodium Sesquisilicate) receive buyer preference because of these advantages:

1. Proper silica balance—which restrains corrosive action
2. Active alkalinity—to insure fast cleaning
3. Well buffered to give sustained cleaning
4. Greater bactericidal effect
5. Free rinsing qualities
6. Attractive appearance

A plus value to you—Metso alkalies are easy to work in your special compounds due to uniform dependable quality and various particle sizes—crystals, granules or fines.

Write for full information about properties and uses as well as laboratory samples.

PHILADELPHIA QUARTZ CO.

General Offices and Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: Engineering Bldg. Stocks in 60 cities.
Sold in Canada by National Silicates Ltd., Toronto, Ont.

1. **METSO GRANULAR.** Sodium Metasilicate, granulated product.
2. **METSO CRYSTALS.** Purest form of Sodium Metasilicate. Uniformly sized crystals.
3. **METSO FINES.** Sodium Metasilicate, finely powdered.
4. **METSO 99.** Pure Sodium Sesquisilicate.
5. **METSO 22.** Integral combination containing Sodium Metasilicate.
6. **METSO 66.** Special Metasilicate cleaner for metals.

U. S. Pat. 1898707
U. S. Pat. 1948730

Deupree Calls Stable Employment Great Need of American Industry

ANY business which can work out a plan of steady work for its employees can realize substantial production economies, said R. R. Deupree, president of Procter & Gamble Co., in an address before the National Association of Manufacturers in New York, December 9. At the same time such plans contribute to the welfare and peace of mind of its employees and aid in moderating the influence on business of seasonal cycles.

Back in 1931 Mr. Procter said, "It cost us $400,000 to keep the 48 week work plan in operation. But in other bad years we have had to close down some of our factories and in 1929-30 we did not close an hour. I think most experts would agree that stoppages and replacements would have cost us far more than the amount we spent, which was approximately $70.00 per employee."

Mr. Deupree characterized the soap business as a supremely steady one, but called attention to the fact that in no industry has it been easy to set up a precise, workable, steady employment plan. Those industries, however, which are blessed with even consumption, said Mr. Deupree, have an obligation to regularize their production so they can order raw materials and supplies in rather even monthly quantities. In this way the original manufacturer of those supplies will have steady employment month after month and the result is a much improved general employment situation reaching right back into the durable goods and raw material industries.

"Understand," said Mr. Deupree, "I am certainly not advocating a guaranteed yearly income or even a guarantee of a definite number of work weeks per year. I do not like to generalize or to lay down any set procedure for all industries. In all of the plans, however, you will discover one common element. Management has peeled off its coat and rid itself of the unessentials, the spasmodic fringes of its business. They have studied and restudied the fundamentals — analyzed everything from the factory floor plan to their distribution methods. In Procter & Gamble's case, for example, the 48 week plan meant a complete change in a general sales policy which had been established for half a century. It is only fair to say that the new plan did not receive unanimous approval, even in our own offices, at the time it was adopted. Yet results proved this plan to be the successful application of common sense and we are very glad we did it."

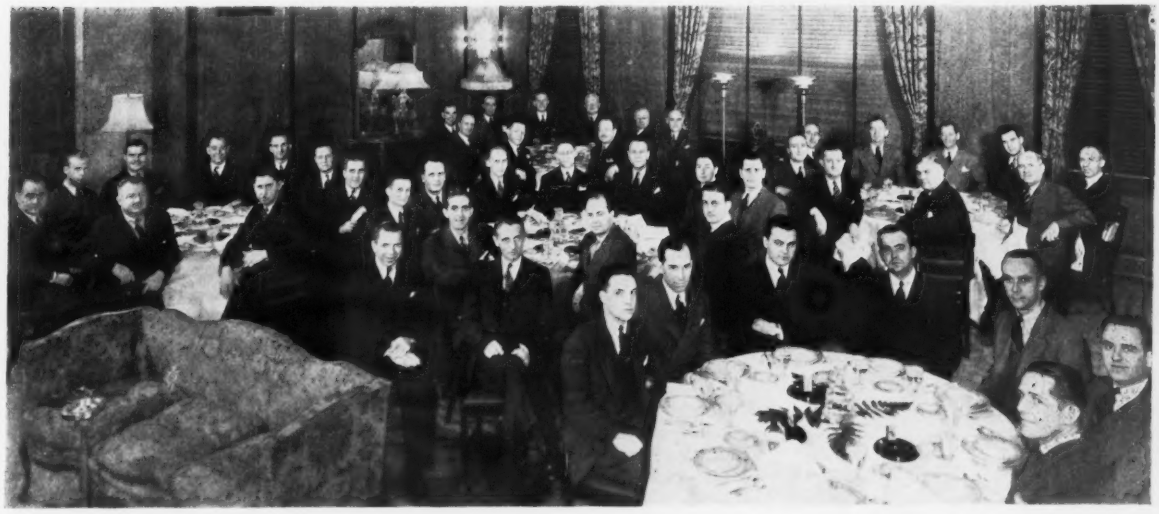
Speaking of the effect of the new wages and hours law on stabilized employment plans, Mr. Deupree called for some recognition to be given to those companies who are attempting to bring about regular income to their employees by exemption from the rigidity of hours in this law. If some concessions are not made, this law can deal a telling blow to plans already formulated and can interrupt and delay future effort, he said.

◆

Chicago Perfumers Party

The Grand Ballroom of the Stevens Hotel was the scene on December 10th of the annual Chicago Perfumery, Soap and Extract Association's Christmas Dinner Dance. A record crowd of members and guests enjoyed the dinner, dancing and floor show. Large souvenir gift bags were presented to the ladies.

Members of the sales staff of Fritzsche Bros., Inc., met at the New York offices of the company last month for their annual sales convention. Following five days of intensive priming on the Fritzsche sales program for the coming year, the convention concluded with a visit to the New York World's Fair grounds and the annual dinner dance held at the New Yorker. Sales Dinner shown below.



AS A DETERGENT AID

CYANAMID'S

TETRA SODIUM PYRO PHOSPHATE, ANHYDROUS

to increase the washing and cleansing efficiency of soaps and cleaning and scouring compounds. . A descriptive leaflet of its uses and advantages will be gladly mailed upon request—write us for your copy, and specify Cyanamid as your supplier of Tetra Sodium Pyro Phosphate.

American Cyanamid & Chemical Corporation

30 ROCKEFELLER PLAZA · NEW YORK, N. Y.

DISTRICT OFFICES:

80 Broad Street, Boston, Massachusetts • 620 South Delaware Avenue, Philadelphia, Pennsylvania • Russell and Bayard Streets, Baltimore, Maryland • 822 West Morehead Street, Charlotte, North Carolina • 20 North Wacker Drive, Chicago, Illinois • 850 Leader Building, Cleveland, Ohio • 1951 East Ferry Avenue, Detroit, Michigan • 2006 Race Street, Kalamazoo, Michigan • 1721 Arcade Building, St. Louis, Missouri

Soap Makers Re-elect Countway Adopt Same Budget for 1939

F. A. COUNTWAY of Lever Bros. Co. was re-elected president of the Association of American Soap & Glycerine Producers at the recent annual meeting held in New York City at the Waldorf-Astoria; E. H. Little of Colgate-Palmolive-Peet Co. was elected vice-president for the eastern states, with R. R. Deupree of Procter & Gamble Co. continuing as vice-president for the central states and F. H. Merrill, Los Angeles Soap Co., again named vice-president for the western states. N. S. Dahl of John T. Stanley Co., continues as treasurer, with A. Roy Robson of Fels & Co., assistant-treasurer, and Roscoe C. Edlund as secretary.

In addition to the officers who serve on the board of directors, the following will also continue in this capacity over the coming year; F. C. Adams, Andrew Jergens Co.; H. D. Banta, Iowa Soap Co.; G. A. Eastwood, Armour & Co.; S. S. Fels, Fels & Co.; O. E. Jones, Swift & Co.; G. A. Wrisley, Allen B. Wrisley Co.; and C. F. Young, Davies-Young Soap Co.

In opening the annual meeting, Mr. Countway put the proceedings on an informal basis, asking for questions and comments on the various reports from every soap maker present. He remarked that the year 1938 had been a pretty good one for the soap industry and said that for 1939 prospects are generally brighter than they were a year ago. Since June, 1938, he said, we have seen the most rapid rise in business activity on record, with the sole exception of the pre-N.R.A. boom of 1933.

F. A. Countway

Mr. Edlund reported on the activities of the secretary's office during the past year. Much work has been called for upon various wage and hour topics. The association prepared an elaborate report on labor conditions in the industry for submission to the Public Contracts Board and represented the industry at numerous hearings before this body. It has also cooperated with the Bureau of Labor Statistics in its survey of wages, hours and working conditions, and has been active in supplying soap makers with answers to questions arising as a result of the Fair Labor Standards Act of 1938.

Tax questions also occupied much of the secretary's time during 1938. Developments during the year included the removal of the 5 per cent manufacturers' federal excise tax on toilet soap and the elimination in the State of Louisiana and in the City of New Orleans of 2 per cent selective sales taxes on soaps sold at more than 10c. The work of cleanliness publicity promotion and glycerine publicity promotion has also been continued in cooperation with the publicity committee and publicity counsel, Ames & Norr.

This work will be continued during 1939 with a $40,000 budget for cleanliness publicity and a glycerine budget of $83,000. The soap publicity budget will be supported by self-assessments by members based on 1/50 of 1 per cent of net soap sales during 1938. The glycerine budget will be based on 1/10 of 1c per pound of glycerine produced in 1938, basis 80 per cent. The general soap budget of the association for 1939 has again been set at $80,000 which members will support through self-assessments based on 1/25 of 1 per cent of net soap sales in 1938. The contributions of those who pay membership fees on a flat basis are also applied to the general soap budget. The secretary accented particularly that number of members is very important and urged every company making any soap or glycerine to join the association.

E. H. Little

Colgate N.A.M. Treasurer

S. Bayard Colgate, chairman of the board of Colgate-Palmolive-Peet Co., was elected treasurer of the National Association of Manufacturers at its annual meeting held recently in New York.

N. S. Dahl

Substitute GOOD ODORS for BAD

SUBSTITUTE the good odor of **ALDAROMES** for the pungent, irritating odor of formaldehyde. This long awaited group of pure compounded aromatics and essential oils is the latest achievement of our technical laboratories. Their use in your various formaldehyde sprays and disinfectants in the proportion of one-half ounce of **ALDAROME** to one gallon of 40% formaldehyde will produce a clear, stable, pleasantly scented solution . . . a product far more agreeable to use and therefore more acceptable to the customer. Samples of these effective, low cost specialties are available upon request.

SUBSTITUTE good odor in your fly sprays and insecticides for the odorous, sales-retarding effect of their basic chemical constituents. Make your product one that the most fastidious housewife can use without misgivings . . . make it a **better** product by odorizing it with one of our cataloged, guaranteed specialties. These represent the chosen few of thousands of tested aromatic compositions made by our chemists to insure the manufacturer a choice selection and range of perfumes for every conceivable, technical need. Write us, describing your product, or better still, send us an unperfumed sample. We'll perfume it as we think best and return it promptly for your approval . . . or rejection . . . and without obligation, of course.

SUBSTITUTE good odor for bad in your naphthalene and paradichlorbenzene blocks by using **PARAPASTELS.** This group of Fritzsche Brothers' specialties kills the unpleasant character of the product, substitutes a clean, refreshing fragrance and colors the block with any one of many attractive pastel tints—three accomplishments in one operation. Thus, the use of **PARAPASTELS** simplifies production, lowers costs and increases the consumer's preference for your product. Twenty-four skillfully blended combinations provide a wide selection of odors and colors. If interested, write for full details.

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

Substitute

ALDAROMES

ALDAROME LILY No. 7	lb.	$3.25
ALDAROME LILAC No. 23	lb.	3.50
ALDAROME JASMINE No. 24	lb.	2.00
ALDAROME LAVENDER No. 25	lb.	2.25
ALDAROME BOUQUET No. 123 Fruity Type	lb.	2.75
ALDAROME BOUQUET No. 124 Heliotrope Type	lb.	3.00
ALDAROME BOUQUET No. 125 Fruity Type	lb.	3.50
ALDAROME BOUQUET No. 126 Sweet, Vanillin Type	lb.	3.50
ALDAROME PINE No. 13	lb.	2.50

Substitute

INSECTICIDE PERFUMES

LAVENDER No. 29	lb.	1.50
LILAC No. 28	lb.	1.50
ROSE No. 33	lb.	2.00
INDIAN HAY No. 5	lb.	3.00
ORANGE BLOSSOM No. 21	lb.	1.50
PINE No. 14	lb.	1.50
BOUQUET No. 149 (Vanilla Type for use around foodstuffs)	lb.	3.00
CEDAR No. 5	lb.	2.00
VIOLET No. 13	lb.	1.50
LILY No. 8	lb.	4.00
CLOVE No. 5	lb.	3.25
CORYLOPSIS No. 6	lb.	3.00
HONEY No. 6	lb.	2.50

. . . and OTHERS

Substitute

PARAPASTELS

(Perfume—Color Combinations)

JASMINE (YELLOW) No. 28	lb.	$2.50
TREFLE (GREEN) No. 9	lb.	2.00
ROSE (OLD ROSE) No. 34	lb.	2.25
LILAC (VIOLET) No. 29	lb.	2.00
NARCISSUS (PINK) No. 8	lb.	4.00
VIOLET (BLUE GREEN) No. 12	lb.	2.50
PINE (GREEN) No. 15	lb.	1.75
HONEYSUCKLE (ORANGE) No. 13	lb.	3.50
CARNATION (RED) No. 11	lb.	2.50
LAVENDER (BLUE) No. 30	lb.	3.00

. . . and OTHERS

"Fragrance Creates Sales Appeal"

Kolynos Answers F.T.C.

Kolynos Co., New Haven, Conn., has filed an answer with the U. S. Federal Trade Commission denying many of the charges of misleading advertising in the sale of "Kolynos" toothpaste and asking dismissal of the complaint. According to the company, quotations from its advertising as cited in the F.T.C. complaint are disconnected parts of statements and do not give an accurate picture of the advertising unless read in connection with the complete text.

Drug Ass'n Honors Shapero

The National Association of Chain Drug Stores will hold a testimonial dinner in honor of Nate S. Shapero on January 19th at the Biltmore Hotel, New York. The proceeds of the ticket sales will go to the Drug, Cosmetics & Allied Division of the American Christian Committee and the Joint Distribution Committee who are sponsoring the dinner.

New J. B. Williams Agent

J. B. Williams Co., Canada, and Albert Soaps, Ltd., Montreal, merged recently and the new company has appointed Vickers & Benson, Montreal, to handle the advertising for "Baby's Own" soap. J. Walter Thompson Co., Montreal, will direct advertising for all other Williams' lines.

Krank Co. Elects Officers

A. J. Krank Co., St. Paul, manufacturer of cosmetics and perfumes, recently elected the following officers: C. W. George, president; Harold E. Lancaster, vice-president; Gordon Hayden, secretary; and William Mannheimer, treasurer.

Dedicate Lever Memorial

A memorial tablet to the late Viscount Leverhulme was recently unveiled at the London Museum by the Earl of Harewood. Lord Leverhulme, as the donor of Lancaster House to the nation, provided the museum with its permanent home.

For Those Who Prefer Powdered Soap

MODEL No. 33 —

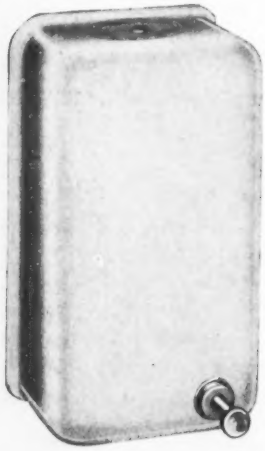
A new, modern, streamlined powdered soap dispenser with solid bronze body—theft proof bracket which may be installed with either screws or toggle bolts—crystal clear glass jar firmly cemented into body—lock top. All metal parts chromium plated. Patented agitator spring prevents soap from packing. Self-cleaning plunger dispenses almost any powdered soap and delivers a measured quantity at each stroke. This model offers the independent manufacturer and jobber, for the first time, a powdered soap dispenser of simple design, equal in quality to modern liquid soap equipment. Especially adapted for high-class installations such as clubs, hotels, office buildings, theatres, etc.

Distributor's Price ..... Dozen Lots **$2.50** each

MODEL No. 25 —

A sturdy medium-priced dispenser equipped with a five-paddle rotor which will dispense any kind of powdered soap, including granulated, beads, flakes, and even pumice soaps without sticking or jamming the mechanism. The body and bracket are die cast in one piece, chromium plated and highly polished. Glass jar is firmly cemented into the body, topped with a black enamel screw cap. This model has been on the market for over 10 years, and thousands are in daily use, giving perfect satisfaction.

Distributor's Price..... Dozen Lots **$1.75** each



MODEL No. 31 —

The heavy-duty powdered soap dispenser for factories, schools, service stations, and other places where dispensers get hard usage. The 18-gauge pressed steel body finished in White Vitreous Porcelain Enamel encloses the entire mechanism and installation screws, thus making it tamper and theft proof. The soap hopper has double the capacity of any powdered soap dispenser on the market. Each stroke of the plunger delivers a measured amount—equipped with agitator spring which keeps the soap from packing. This dispenser will dispense any kind of powdered soap including grit and pumice soaps, without jamming.

Distributor's Price ..... Dozen Lots **$2.75** each

BOBRICK MANUFACTURING CORPORATION

15 East 26th Street
New York City

111-117 So. Garey St.
Los Angeles, Calif.

—SAMPLES—

Samples of any or all models will be gladly sent you and billed at the dozen price. Try them with your own product for 30 days. If not satisfied, return them and the charge will be cancelled.

We sell to soap manufacturers and jobbers only

Contracts Awarded

Post Office Awards

Newell - Gutradt Co., San Francisco, was awarded the contract for 32,500 lbs. of toilet soap at 5.7c in a recent opening by the U. S. Post Office Dept., Washington, D. C. On 100 doz. chamois skins, American Sponge & Chamois Co. was awarded the contract at $9.012 f.o.b. New York City. On 150 doz. cotton mops, New York Association for the Blind was awarded the contract at $3.284 f.o.b. Washington.

Low Treasury Dept. Bidders

Crystal Soap & Chemical Co. was low bidder on 175 gallons of disinfectants at 50.1c in a recent opening by the supply procurement division of the U. S. Treasury Dept. at Washington. On 45,000 lbs. of laundry chip soap, S. Strunz & Son were low bidders at 5.8c. On 8,280 cans of hand soap, Larkin Soap Co. was low bidder at 3.84c. Industrial Distributors were low bidders on 100 quarts of floor oil at 12.5c.

Chicago Soap Awards

Armour & Co. have been awarded a contract covering 2,340 lbs. chip soap for the Chicago U. S. Army Quartermaster at a price of 7.02c per lb. Kraft Chemical Co., Chicago, awarded 26,000 lbs. trisodium phosphate at 2.15c. Amer. Sponge & Chamois Co., New York, awarded 156 sponges at 36c ea. Imperial Prods. Co., Phila., awarded 138 cans metal polish at 13.98c can.

P. & G. Plant Contract

H. Manley, New York, has been named by Procter & Gamble Co. to prepare plans for the new P&G plant to be built near Quincy, Mass., which was announced last month.

Paint Remover Bids

Among the low bidders on 100 gals. paint and varnish remover for the Washington Post Office Dept. in a recent bidding were the following: Chas. Citrin & Sons, Bklyn., 49.4c f.o.b. Bklyn.; Masco Chem. Co., Kearny, N. J., 52c f.o.b. Kearny; and Woodfinishing Prods. Co., New York, 52c f.o.b. New York.

Sodium Metasilicate Standard

A tentative draft of a proposed federal specification for sodium metasilicate, pentahydrate, has just been prepared by the technical committee on detergents appointed by the U. S. Federal Specifications Executive Committee. It provides that sodium metasilicate, pentahydrate, shall be a white uniform product in either the granular form or the crystalline form, as specified by the purchaser, and shall contain not less than 99 per cent of sodium silicate calculated as $Na_2SiO_3.5H_2O$. It must conform to the following detail requirements:

	Maximum %	*Minimum* %
Sodium metasilicate, calculated as $Na_2SiO_3.5H_2O$	...	99.0
Total alkalinity to methyl orange indicator, calculated as sodium oxide (Na_2O)	30.0	29.0
Total silica, as SiO_2	29.0	28.0
Matter insoluble in water	0.2	...
Residue retained on a No. 10 sieve	10.0	...

Comments or criticisms are requested to be sent promptly to F. W. Smither, chairman of the committee.

Wants Soap Agency

A firm located in San Juan, Puerto Rico, is interested in securing an agency for the sale of laundry soaps of American manufacture. Full particulars may be obtained by writing to the U. S. Bureau of Foreign & Domestic Commerce, mentioning inquiry number 8813.

Foragers Elect

Foragers of America elected officers at their annual meeting on December 28th held at their clubroom in New York. The new officers are H. T. Georgi, Houbigant, president; T. M. Hanlon, Caron, vice-president; and A. T. Connolly, Harold F. Ritchie Co., secretary and treasurer. Those elected to the board of governors for 1939-1940 are W. W. Neilson, Harold F. Ritchie Co.; F. L. Graham, De Villbiss Atomizer Co.; N. M. King, Lentheric; W. A. Conklin, Helfrich Laboratories; J. E. Curry, Ogilvie Sisters; and G. B. Dermody, Richard Hudnut.

Soap Employment Declines

The index of employment in the soap industry as compiled by the U. S. Dept. of Labor registered 88.9 for November 1938 as compared with 93.2 for October 1938 and 92.6 for November 1937. The payroll index is also lower, showing 88.3 for November 1938 compared with 94.8 for October 1938 and 93.4 for November 1937.

Move Wollen Chem. & Supply

Wollen Chemical & Supply Co., Paterson, N. J., suppliers of acids, chemicals, oils and soaps, recently purchased a building at Waite Street & Sixth Avenue into which they have moved their offices and warehouse.

Plan New Woodbury Plant

Andrew Jergens Co., Cincinnati, manufacturer of "Woodbury" soap, is planning construction of a new Eastern plant to be located in New Jersey, for the manufacture of both Jergens and Woodbury products.

Plan New Apex Plant

Apex Soap & Sanitary Co. has recently made plans for the construction of a manufacturing and distribution plant at 414-24 Bausman St., Pittsburgh. The new unit will be equipped for the manufacture of soaps and cleaning materials.

New Location for R. Peltz

R. Peltz Co., Philadelphia, manufacturers' and refiners' sales representative, has recently moved its offices and warehouse to 36 Kenilworth Street.

"Did you know American Can has 67 factories and shops?

● That's why they can be so dependable on deliveries, through thick and thin ... and it gives *us* one thing less to worry about."

AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.
World's Largest Manufacturer of Metal and Fibre Containers

CANCO

New Trade Marks

The following trade-marks were published in the December issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

THESKO — This in solid letters describing soap. Filed by the Skat Co., Hartford, Conn., Sept. 30, 1938. Claims use since Jan. 1, 1938.

KILL-EM SLICK—This in solid letters with illustration of sprayer killing insects, describing insect spray. Filed by Krom Laboratories, Kingston, N. Y., Aug. 11, 1938. Claims use since July 30, 1935.

AGRI-DUST—This in solid letters describing louse and flea powder. Filed by Murphy Products Co., Gouverneur, N. Y., Sept. 9, 1938. Claims use since July 1, 1937.

SQUITO-RID—This in letters resembling script describing larvacide and repellent for mosquitoes. Filed by Andrew Wilson, Inc., Springfield, N. J., Sept. 16, 1938. Claims use since June, 1937.

EMPESCO—This in solid letters describing cleanser. Filed by Milk Plant Specialties Corp., Rochester, N. Y., Sept. 20, 1938. Claims use since Aug. 29, 1938.

STA-WAY—This in solid letters describing insect repellent lotion. Filed by National Carbon Co., New York, Sept. 22, 1938. Claims use since June 10, 1938.

VELVO—This in script letters with geometrical design describing floor wax. Filed by Hi-Glo Products, New York, March 31, 1938. Claims use since Dec. 23, 1937.

VARSITY — This in script letters describing auto polish. Filed by Varsity Products Co., Philadelphia, April 4, 1938. Claims use since Feb. 1, 1938.

GREASOLV—This in solid letters, the first and last letters being larger than the rest, with photographs of ball and roller bearings describing cleaner for bearings. Filed by Sanesco Co., Philadelphia, Oct. 15, 1938. Claims use since January 1937.

SAY HURA—This in solid letters with the word "Say" resembling script, describing soap. Filed by Sahuara Chemical Co., Downey, Calif., Oct. 17, 1938. Claims use since Feb. 1, 1938.

KOIL-EX—This in solid letters describing detergent. Filed by Protectol Co., Chicago, Oct. 3, 1938. Claims use since Sept. 21, 1938.

1-SHOT—This in solid letters describing flushing powder for closet bowls. Filed by Derris, Inc., New York, Aug. 18, 1938. Claims use since July 1, 1938.

DIC-A-DAILY — This in solid letters describing general household cleaner. Filed by Patent Cereals Co., Geneva, N. Y., Sept. 12, 1938. Claims use since Aug. 19, 1938.

LUSTRONOL—This in solid letters describing washing powder. Filed by Minnesota Chemical Co., St. Paul, Oct. 13, 1938. Claims use since Aug. 25, 1938.

PURGO — This in solid letters describing detergent. Filed by Minnesota Chemical Co., St. Paul, Oct. 13, 1938. Claims use since Aug. 13, 1938.

ISO-PAR—This in solid letters within geometrical design describing germicidal preparation. Filed by Medical Chemicals, Inc., Baltimore, Oct. 5, 1938. Claims use since Sept. 2, 1938.

BIFF — This in solid letters with drawing of a fist and the words "A Sure Knockout" describing floor wax. Filed by Biff Manufacturing Co., Pueblo, Col., July 11, 1938. Claims use since Oct. 1, 1926.

TOILEX—This in outline type letters describing cleanser for toilet bowls. Filed by Hockwald Chemical Co., San Francisco, Sept. 27, 1938. Claims use since Aug. 30, 1935.

SANOR — This in solid letters describing disinfectant. Filed by Rochester Germicide Co., Rochester, N. Y., Sept. 29, 1938. Claims use since Aug. 1, 1938.

RED AUTO—This in solid letters above illustration of automobile describing automobile cleaning preparations. Filed by B. F. Goodrich Co., Akron, Jan. 5, 1938. Claims use since May 1, 1937.

IT'S O.K.—This in script letters on circular reverse plate describing washing powder. Filed by Procter & Gamble Co., Cincinnati, Feb. 16, 1938. Claims use since Mar. 10, 1935.

ALL-WAX—This in solid letters with advertising material for label describing automobile polish. Filed by Wax Products of New Jersey, Irvington, N. J., Dec. 24, 1937. Claims use since Jan. 1, 1935.

RID-O-RAT—This in solid letters below the word "Wilson's" in script letters describing rat exterminator. Filed by Andrew Wilson, Inc., Springfield, N. J., Aug. 27, 1938. Claims use since March 1933.

SOIL-O-GAS — This in shaded letters below the word "Wilson's" in script letters describing preparation applied to soil for destroying insects. Filed by Andrew Wilson, Inc., Springfield, N. J., Aug. 27, 1938. Claims use since March 1933.

BAC-TROL—This in solid letters describing disinfectant. Filed by Baird & McGuire, Holbrook, Mass., Sept. 15, 1938. Claims use since April 1, 1938.

1-SHOT—This in solid letters describing drain pipe cleaner. Filed by Derris, Inc., New York, Aug. 18, 1938. Claims use since July 1, 1938.

BESCOUR—This in stencil letters describing soap. Filed by Beach Soap Co., Lawrence, Mass., Oct. 3, 1938. Claims use since July 11, 1938.

METONE — This in solid letters describing soap. Filed by Industrial Soap Co., St. Louis, Oct. 3, 1938. Claims use since Mar. 1, 1938.

LONDON HOUSE—This in Old

HIT OR MISS METHODS . . .

HIT or miss methods of selecting soda ash, caustic soda, caustic potash, and other alkalies you require for soap making have gone out of date.

Today, there are five important requirements to be considered when you place your order for an alkali to be used for soap manufacture or soap repackaged products . . .

QUALITY — Solvay Alkali Quality is assured. As the oldest and largest American producer of alkalies, Solvay Alkalies have consistently established *the* standard for high quality in the alkali industry.

FORM OF PRODUCT — The right type of product for *your* job. Not a compromise. Solvay Alkalies, where it makes a difference, are produced in various forms to meet your specific requirements. Send for the Solvay Products Book for information on sizes and strengths of Solvay products.

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SERVICE — Have you a problem concerning the use or handling of alkalies? . . . Solvay Technical Service Division, maintained to help you, is at your service!

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Please send me a copy of the Solvay Products Book which will give me complete information on all Solvay Products.

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Firm.....

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City..... State..... AJ-1

English letters with drawing of a man describing shaving soap. Filed by London House, Ltd., New York, Sept. 9, 1937. Claims use since Aug. 10, 1937.

ZIP-GLO — This on reverse plate describing cleaning preparation. Filed by Pioneer Co., Louisville, Sept. 12, 1938. Claims use since July 7, 1937.

PINO-KLEEN — This in solid letters describing powdered cleanser. The word "Kleen" is disclaimed apart from the mark. Filed by Acme Chemical Co., Milwaukee, Sept. 29, 1938. Claims use since May 14, 1929.

LIN-BRITE—This in shaded letters describing liquid cleaner compound. Filed by L. B. Kang, Los Angeles, Oct. 6, 1938. Claims use since July 9, 1938.

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Trade Marks Granted

362,060. Soap Powder. Tex-Ite Products Corp., Brooklyn. Filed July 11, 1938. Serial No. 408,404. Published August 30, 1938. Class 4.

362,066. Cleaner for China Plumbing Fixtures. Columbia Products Corp., Washington, D. C. Filed July 14, 1938. Serial No. 408,494. Published August 30, 1938. Class 4.

362,128. Shampoo. Cleanse-All Products Co., New York. Filed August 26, 1937. Serial No. 396,-760. Published September 6, 1938. Class 6.

362,154. Polish and Wax for Floors. American Disinfecting Co., Sedalia, Mo. Filed December 10, 1937. Serial No. 400,675. Published September 6, 1938. Class 16.

362,172. Cleaner for Glass Surfaces. Anderson Co., Gary, Ind. Filed January 29, 1938. Serial No. 402,458. Published September 6, 1938. Class 4.

362,182. Toilet Bowl Deodorant. Zoro Co., Chicago. Filed February 5, 1938. Serial No. 402,-733. Published August 30, 1938. Class 6.

362,226. Cleaning Preparation. Champion Products Co., Orange, Mass. Filed May 2, 1938. Serial No. 405,935. Published September 6, 1938. Class 4.

362,229. Soap. Hart Products Corp., New York. Filed May 4, 1938. Serial No. 405,988. Published September 6, 1938. Class 4.

362,260. Flea Powder. Polk Miller Products Corp., Richmond, Va. Filed May 21, 1938. Serial No. 406,601. Published August 30, 1938. Class 6.

362,350. Insecticide. Peru Specialty Co., Peru, Ind. Filed June 21, 1938. Serial No. 407,733. Published September 6, 1938. Class 6.

362,411. Shaving Creams. James V. Lamorte, New York. Filed July 8, 1938. Serial No. 408,319. Published September 6, 1938. Class 4.

362,424. Insecticides. Zip Manufacturing Co., Oklahoma City. Filed July 12, 1938. Serial No. 408,-431. Published September 6, 1938. Class 6.

362,441. General Household Cleaner. General Household Necessities Co., Los Angeles. Filed July 19, 1938. Serial No. 408,639. Published September 6, 1938. Class 4.

362,460. Ant Bait. Lethelin Products Co., Wood Ridge, N. J. Filed July 27, 1938. Serial No. 408,-956. Published September 6, 1938. Class 6.

362,461. Insecticide. Lethelin Products Co., Wood Ridge, N. J. Filed July 27, 1938. Serial No. 408,-957. Published September 6, 1938. Class 6.

362,462. Tooth Cleaning Solution. Howard W. Thomas, Aberdeen, S. Dak. Filed July 27, 1938. Serial No. 408,974. Published September 6, 1938. Class 6.

362,464. Powder to Kill Lice. Murphy Products Co., Gouverneur, N. Y. Filed July 28, 1938. Serial No. 409,006. Published September 6, 1938. Class 6.

362,466. Shampoos. J. Schanzenbach & Co., New York. Filed July 29, 1938. Serial No. 409,059. Published September 6, 1938. Class 6.

362,615. Automobile Polish. Flare Laboratories, Chicago. Filed July 1, 1938. Serial No. 408,086. Published September 13, 1938. Class 16.

362,616. Metal Polish. Flare Laboratories, Chicago. Filed July 1, 1938. Serial No. 408,088. Published September 13, 1938. Class 4.

362,622. Shaving Soap. Brunswig Drug Co., Los Angeles. Filed July 13, 1938. Serial No. 408,451. Published September 13, 1938. Class 4.

362,640. Glass Cleaner. Linden Chemical Co., Rahway, N. J. Filed July 28, 1938. Serial No. 409,005. Published September 13, 1938. Class 4.

362,641. Cleansing Powders. Sunshine Soda Co., New York. Filed July 30, 1938. Serial No. 409,115. Published September 13, 1938. Class 4.

362,694. Chemical Cleaner for Glass. Anderson Co., Gary, Ind. Filed January 29, 1938. Serial No. 402,461. Published September 20, 1938. Class 4.

362,711. Disinfectant. Andrew Mancuso, Kansas City. Filed March 25, 1938. Serial No. 404,589. Published September 13, 1938. Class 6.

362,775. Insecticides. Rohm & Haas Co., Philadelphia. Filed July 2, 1938. Serial No. 408,167. Published September 13, 1938. Class 6.

362,779. Soap. Elizabeth Gould, Brooklyn. Filed July 9, 1938. Serial No. 408,345. Published September 20, 1938. Class 4.

362,796. Insect Spray. Louisiana Drug Co., Opelousas, La. Filed July 19, 1938. Serial No. 408,651. Published September 13, 1938. Cl. 6.

362,818. Dental Cream. Colgate-Palmolive-Peet Co., Jersey City. Filed August 2, 1938. Serial No. 409,158. Published September 13, 1938. Class 6.

362,823. Washing Fluid. Solvent Products Co., New York. Filed August 5, 1938. Serial No. 409,277. Published September 20, 1938. Cl. 4.

362,989. Cleaning Preparation. Prim Corp., St. Louis. Filed July 29, 1938. Serial No. 409,058. Published September 27, 1938. Class 4.

363,013. Liquid Floor Wax. Krom Laboratories, Kingston, N. Y. Filed August 11, 1938. Serial No. 409,474.

They

ALL LOOK ALIKE ON PAPER;

but . . . real merit is PROVEN by the way consumers order and reorder.

By handling Clifton products exclusively wide-awake jobbers consistently increase their sales and profits. You can do likewise.

Details for the asking on the complete line of soap bases, dispensers, deodorant cakes, disinfectants, waxes, polishes and kindred products. Inquire today from Clifton Chemical Co., 246 Front St., New York.

CLIFTON

Raw Material Markets

(As of January 3, 1939)

NEW YORK—There were a whole series of price changes in the list of soap and disinfectant raw materials this period as suppliers adjusted their selling schedules for the new year's business. Much of the activity was centered in the chemical list which ordinarily is comparatively stable from month to month. For the most part the changes in quotations were to lower levels. The oil and fat list changed only fractionally, with no definite trend apparent.

CHEMICALS

Carbon Tetrachloride

A new basis of quoting on carbon tetrachloride and other dry cleaning solvents was announced last period by an important producer of these materials. Carbon tet quotations will in the future be on a gallon basis rather than on a pound basis. The new range on car lot quantities is from 66½ to 83c per gallon depending on the zone of delivery. The lcl range is from 73c to $1.17 per gallon.

Chlorine

Producers of liquid chlorine in tanks announced a reduction of 15c per 100 lbs. on 1939 deliveries this period. This brings the current range down to a basis of $2.00 to $2.85 per 100 lbs.

Cresylic Acid

Quotations on both the high and low-boiling grades of cresylic acid for 1939 were reduced sharply by producers last month. The reductions are in the neighborhood of ten cents per gallon. U.S.P. cresol was dropped half a cent per pound and tar acid oils were lowered a cent a gallon.

Naphthalene

Crude domestic naphthalene for 1939 delivery will sell under 1938 levels as the result of a series of price changes just made public. The 74 deg. product was cut 10c per 100 lbs. and the 78 deg. 25c per 100 lbs.

Sodium Silicofluoride

Reductions were announced last period in quotations on both foreign and domestic sodium silicofluoride. The new schedule on domestic material is ¼c per lb. lower, the range being from 4½ to 4¾c per lb.

OILS AND FATS

Coconut Oil

This market continued quiet with local quotations unchanged. On the west coast quotations on Manila tanks were reported to have declined about ¼c per lb. since last month.

Olive Oil

Prospects for olive oil production in the principal Mediterranean producing countries indicate a sharply curtailed crop this year, with a resulting advance in olive oil prices this period. The outlook now is that the 1938 crop will total only about 700,000 short tons as compared with the 1937 crop which reached almost 1,300,000 tons.

Tallow

The tallow market was quiet this period, with little change in quotations reported through the month. Offerings are reported light and the market currently exhibits a firmer tone.

PERFUMING MATERIALS

Citronella Oil

Both Java and Ceylon oils were several cents a pound lower this period in an easier market. Shipment quotations are also said to be off. The current range is 34 to 36c on Java and 32 to 33c on Ceylon.

Geranium Oil

Prices on all types of geranium oil were reduced quite sharply this period. The range on Algerian oil is now $2.85 to $3.50 and on Bourbon oil $2.50 to $2.85.

Pennyroyal Oil

Quotations on imported pennyroyal advanced sharply this period in the absence of substantial competition from domestic producers. Current figures are now 30c a pound higher than a month ago at a level of $1.90 to $2.00.

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Oiticica Oil Stocks

A note from the office of the American Attache in Rio de Janeiro states that the market for oiticica oil has been practically at a standstill for several months. Plants in the northern producing states of Brazil have either curtailed their operations or closed down. At the end of November the crop of oiticica seed on hand was estimated at 20,000 tons, with a stock of oil on hand of approximately 2,000 tons. The oiticica oil industry has been affected by the increased cost of the seed. To improve this situation, the government lifted the embargo on the exportation of the seed, which was placed a few years ago. However the quantity of oil exported from Brazil during the first 8 months of 1938 was considerably more than for the whole of 1937. World Trade Notes on Chemicals and Allied Products **12,** December 10, 1938.

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New "Drano" Agent

Drackett Co., Cincinnati, has recently appointed Young & Rubicam, Chicago, to handle the advertising of "Drano" and "Windex."

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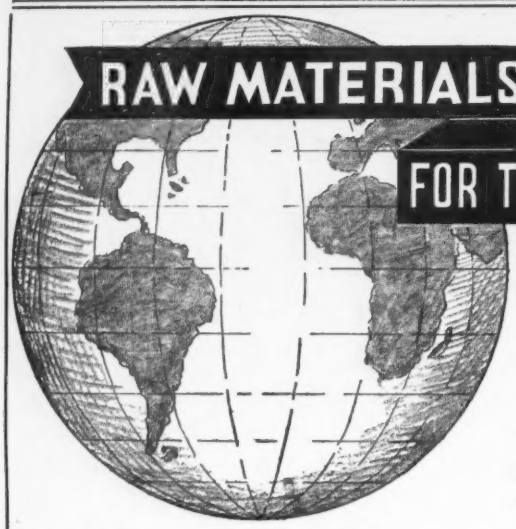
Dearborn Chemical Appoints

Dearborn Chemical Co., Chicago, has just appointed Fensholt Co. to handle the advertising of "No-Ox-Id."

OILS FATS
CHEMICALS
FATTY ACIDS

RAW MATERIALS
FOR THE SOAP INDUSTRY
FROM ALL PARTS OF THE WORLD



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Cocoanut Oil
Corn Oil
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Palm Oil
Palm Kernel Oil
Olive Oil
Olive Oil Foots
Peanut Oil
Perilla Oil
Rapeseed Oil
Sesame Oil
Soya Bean Oil
Teaseed Oil
Fatty Acids
Lard Oils
Neatsfoot Oil
Oleo Stearine
Stearic Acid
White Olein
Tallow
Grease
Lanolin
Caustic Soda
Soda Ash
Caustic Potash
Carbonate Potash
Sal Soda
Modified Soda
Silicate Soda
Metasilicate
Tri Sodium Phosphate
Di Sodium Phosphate
Chlorphyll
"CEREPS" Superfatting Agent

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Phenyl Ethyl Alcohol
Methyl Acetophenone
Acetophenone
Geranyl Acetate
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AMERICAN-BRITISH
CHEMICAL SUPPLIES, Inc.
180 MADISON AVE., NEW YORK

Raw Material Prices

(As of January 3, 1939)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	106.00	138.00
Cresylic, drums	gal.	.63	.64
Low boiling grade	gal.	.69	.71
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl, U.S.P., bbls.	gal.	4.56½	4.61½
Complete Denat., SD 1, drums, ex.	gal.	.31	.33
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02	.02¼
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	.83
L. C. L.	gal.	.73	1.17
Caustic, see Soda Caustic. Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U.S.P., drums	lb.	.10	.10½
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	30.00
Glycerine, C. P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08½	.08¾
Soap, lye drums	lb.	.07¾	.08
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs.	lb.	.99	1.13
Naphthalene, ref. flakes, bbls.	lb.	.05¾	.06
Nitrobenzene (Wyrhane) drums	lb.	.08	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02⅝	.03⅞
Phenol (Carbolic Acid), drums	lb.	.14½	.15½
Pine Oils, bbls.	gal.	.46	.59
Potash, Caustic, drums	lb.	.07	—
Flake	lb.	.07¼	.07½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	4.75	5.25
Grade K to N	bbl.	5.25	6.25
Grade WG to X	bbl.	6.75	7.55
Wood FF Spot	bbl.	5.80	6.50
Rotten Stone, pwd. bbls.	lb.	.01¾	.02½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.22	.26
Olive Castile, powder	lb.	.28	.33
Powdered White, Neutral	lb.	.20	.22
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U.S.P.	lb.	.11	.13½
Tallow Chips, 88%	lb.	.07½	.08½
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07½	.08¾
Sodium Hydrosulphite, bbls.	lb.	.16	.17
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.21	.28
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06½	.07¾
Zinc Stearate, bbls.	lb.	.21	.23

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06⅛	Nom.
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03⅛	—
Tanks, Pacific Coast, futures	lb.	.02⅝	.02¾
Copra, bulk, coast	lb.	.0185	Nom.
Corn, tanks, mills	lb.	.06½	.06⅝
Cottonseed, crude, tanks, mill	lb.	.06⅜	Nom.
PSY, futures	lb.	.07⅜	.07¾
Fatty Acids,			
Corn Oil, tanks	lb.	.07¾	.08
Coconut Oil, Tanks	lb.	.08¼	.08½
Cotton Oil, tanks	lb.	.07¼	.07½
Settled soap stock	lb.	.02⅞	.03
Boiled soap stock, 65%	lb.	.03⅞	.04
Foots, 50%	lb.	.01⅜	.01⅝
Red Oil, bbls., dist. or sapon.	lb.	.08⅜	Nom.
Tanks	lb.	.07½	Nom.
Stearic Acid,			
Double prsesed	lb.	.10	.11
Triple pressed	lb.	.12¾	.13¾
Greases, choice white bbls., f.o.b.			
Chicago	lb.	.05½	.05¾
Yellow	lb.	.04⅞	.05
House	lb.	.04⅞	.05
Lard Oil.			
Extra, bbls.	lb.	—	.09
Extra, No. 1, bbls.	lb.	—	.09
No. 2, bbls.	lb.	—	.08½
Linseed, raw, bbls.	lb.	.0850	.0870
Tanks, raw	lb.	.0790	.0810
Boiled, 5 bbl. lots	lb.	.0930	.0950
Oleo Oil, No. 1, bbls., N. Y.	lb.	.08½	—
No. 2, bbls., N. Y.	lb.	.07¾	—
Olive, denatured, bbls., N. Y.	gal.	.92	.95
Foots, bbls., N. Y.	lb.	.07⅛	.07¼
Palm, shipment	lb.	.03	—
Palm Kernel, shipment	lb.	.0340	Nom.
Sesame Oil, dms.	lb.	.10½	Nom.
Soya Bean, domestic tanks, crude	lb.	.05¾	.05⅞
Sterine, oleo, bbls.	lb.	.06¾	.07
Tallow, special, f.o.b. plant	lb.	.05½	—
City, ex. loose, f.o.b. plant	lb.	.05⅝	—
Tallow oils, acidless, tanks, N. Y.	lb.	.08	—
Bbls. c/l N. Y.	lb.	.08½	—
Teaseed Oil, crude	lb.	.07½	.07¾
Whale, refined	lb.	.0770	.0830

That's not All..

BENETCO DRUMS AND PAILS HAVE *Constant Advertising Value*

1 STURDY CONSTRUCTION

It is only *part of the job* of these sturdy lithographed (or printed) STEEL CONTAINERS to carry your products *safely* and *conveniently* to your customers. They *are* built to take the hard knocks of shipping and handling without damage to the contents—and to provide convenient shipping and dispensing containers.

2 CONVENIENT and SAFE

But *more than that,* they also keep your *name* and *trademark constantly on display* —helping you to INCREASE SALES.

3 ATTRACTIVELY LITHOGRAPHED

Give YOUR products the advantages of these DOUBLE-DUTY CONTAINERS.

Write for catalog and prices on Benetco Steel Drums and Pails that will exactly meet the production and marketing needs of your products.

WILSON & BENNETT MFG. CO.

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Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.25	$2.30
Bitter, F. F. P. A.	lb.	2.40	2.45
Sweet, cans	lb.	.62	.63
Anise, cans, U.S.P.	lb.	.70	.75
Bay tins	lb.	1.20	1.25
Bergamot, coppers	lb.	3.65	3.85
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.60	.65
Crude, tins	lb.	.16	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.42	.45
Cajeput, native, tins	lb.	.42	.45
Calamus, tins	lb.	3.60	4.25
Camphor, Sassy, drums	lb.	.27	Nom.
White, drums	lb.	.27	Nom.
Cananga, native, tins	lb.	1.25	1.30
Rectified, tins	lb.	1.80	1.85
Caraway Seed	lb.	1.80	1.85
Cassia, Redistilled, U.S.P.	lb.	.95	1.00
Cedar Leaf, tins	lb.	.63	.68
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.34	.36
Citronella, Ceylon, drums	lb.	.32	.33
Clove, U.S.P., tins	lb.	.98	—
Eucalyptus, Austl., U.S.P., cans	lb.	.35	.37
Fennel, U.S.P., tins	lb.	1.10	1.15
Geranium, African, cans	lb.	2.85	3.50
Bourbon, tins	lb.	2.50	2.85
Turkish	lb.	1.90	2.00
Hemlock, tins	lb.	.60	.65
Lavender, U.S.P., tons	lb.	2.00	4.75
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.38	.40
Linaloe, Mex., cases	lb.	1.25	1.30
Nutmeg, U.S.P., tins	lb.	1.20	1.25
Orange, Sweet, W. Ind., tins	lb.	1.75	1.85
Italian cop	lb.	2.25	3.25
Distilled	lb.	—	.50
Cal.	lb.	—	.75
Origanum, cans, tech	lb.	.90	1.60
Palmarosa	lb.	2.00	2.25
Patchouli	lb.	3.75	6.50
Pennyroyal, dom.	lb.	2.10	2.15
Imported	lb.	1.90	2.00
Peppermint, nat., cans	lb.	2.15	2.45
Redis., U.S.P., cans	lb.	2.35	2.65
Petitgrain, S. A., tins	lb.	.82½	.90
Pine Needle, Siberian	lb.	.95	1.00
Rose, Natural	oz.	5.25	22.50
Artificial	oz.	2.00	8.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	4.75	4.80
Sassafras, U.S.P.	lb.	.90	1.00
Artificial, drums	lb.	.36	.37
Spearmint, U.S.P.	lb.	1.70	1.75
Thyme, red, U.S.P.	lb.	.85	1.25
White, U.S.P.	lb.	.85	1.45
Vetivert, Bourbon	lb.	3.50	15.00
Ylang Ylang, Bourbon	lb.	3.00	5.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.30	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.00	1.05
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.10	3.10
Citronella	lb.	.75	.80
Citronellol	lb.	1.60	1.65
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.55	.57
Eugenol, U.S.P.	lb.	1.70	2.15
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.35	2.25
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.25	3.65
Ketone	lb.	3.40	3.80
Xylene	lb.	1.00	1.25
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.70	3.35
Rhodinol	lb.	6.65	13.00
Safrol	lb.	.50	.53
Terpineol, C. P., 1000 lb. drs.	lb.	.23	.24
Cans	lb.	.25	.30
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.40	1.45
Vanillin, U.S.P.	lb.	2.10	2.35
Yara Yara	lb.	1.25	1.50

Insecticide Materials

Insect Powder, bbls.	lbs.	.28	.30
Concentrated Extract			
5 to 1	gal.	1.50	1.60
20 to 1	gal.	5.65	5.75
30 to 1	gal.	8.60	9.00
Derris, powder—4%	lb.	.30	.35
Derris, powder—5%	lb.	.36	.42
Cube, powder—4%	lb.	.26	.30
Cube, powder—5%	lb.	.30	.35

Gums

Arabic, Amb. Sts.	lb.	.09	.09¼
White, powdered	lb.	.12½	.14
Karaya, powdered No. 1	lb.	.14½	.23
Tragacanth, Aleppo, No. 1	lb.	2.40	2.45
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.37	.39
African, bgs.	lb.	.19	.20
Refined, yel.	lb.	.32½	.33
Candelilla, bgs.	lb.	.15½	.16
Carnauba, No. 1	lb.	.39	.41
No. 2, N. C.	lb.	.34	.35
No. 3, chalky	lb.	.29	.30
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.039	.040

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Shaving Soaps and Creams

A REVIEW of shaving soaps and creams shows that many patents have been issued in the last few years and continue to be issued in this field. The fat components most commonly called for are stearic acid and coconut oil. Some high-class products are made with myristic acid, which has a less irritating effect on sensitive skin than coconut oil soaps. Olive oil, paraffin oil, paraffin wax, sperm oil, oleic acid, and several other fats have also been used. Carbide & Carbon Chemicals Corporation in U. S. Patent 1,979,385, show how a high per cent of mineral oils can be used. The use of up to 90 per cent of fatty alcohol sulfates is covered by T. Th. Böhme A.B. in U. S. Patent 2,061,468. Colgate-Palmolive-Peet give a method in French Patent 810,847 according to which coconut oil and glycerine are sulfonated with fuming sulfuric acid, with or without the presence of alkali. The sulfonation product of the monoglyceride of coconut-oil fatty acids constitutes 45 per cent of the shaving cream.

Turner, in British Patent 429,786, prepares a shaving agent by heating a mixture of 10 parts of stearic acid with 10 parts of sulfonated train oil, to which two parts of glycerine and 30 parts of water may be added. Henkel & Cie. in a number of patents, superfat a soap cream of the usual fat composition with seven per cent of dodecylamine or five per cent of a mixture of nonyl- undecyl- tridecyl and pentadecyl ketones. This gives a cream having an extremely stable although not very copious lather. To prevent drying and to give a smooth feeling on the skin, many shaving products contain a fairly high percentage of glycerine.

The principal basic constituents used are caustic soda and caustic potash, although increasing amounts of milder bases are beginning to be used. J. Gelert-Nielsen in Norwegian Patent 56,620 and G. D. Gettemüller in U. S. Patent 1,991,501 saponify with an excess of ammonia. Evolution of the excess is hindered by cooling. A shaving cream consisting of an extract of flaxseeds prepared with hot water with the addition of soda ash, ammonia, or a mixture of the two, is described in Canadian Patent 341,238. Numerous patents refer to the use of alkylolamines, particularly triethanolamine. Triethanolamine can be used to replace glycerine, because of its hygroscopic character and its softening effect on the hair. F. Kalle & Co. used in place of glycerine a mixture of one part of Tylose, two parts of triethanolamine and seven parts of water.

Phosphates are also used. J. Augustin adds 0.3-0.5 per cent of sodium metaphosphate to a shaving cream and 0.6-1 per cent to shaving soap to increase lathering power. Shaving liquids and brushless shaving creams containing 0.5-1 per cent of metaphosphate show increased ability to soften the beard quickly. Metaphosphate also has a favorable action on the skin and on open scratches. Lamepones, which are condensates of protein decomposition products with fatty acids, have a water-softening effect. Borates and even magnesium salts are components of some patented products. A shaving agent containing one kg. of magnesium carbonate, 230 g. of alkali soap, 12 cc. of caustic soda, 60 cc. of water, 40 g. of sodium acid sulfite, 3½ cc. of citric acid solution, 35 cc. of aluminum acetate and 48 g. of gelatin, is described by Etablissement Pilex in French Patent 800,548. V. Dzialoschinsky in Norwegian Patent 56,191, mixes 1000 parts of magnesium superoxide at room temperature with 200 parts of very finely ground lactose, 100 parts of gum arabic and five parts of hydrogen peroxide carbamid, to make a shaving product. The magnesium superoxide can be replaced by sodium peroxide or barium peroxide. Gum arabic, tragacanth or saponine is used as emulsifying agent in German Patent 604,774. Organic compounds sometimes mentioned are casein and cetyl alcohol.

Experiment has shown that non-lathering shaving creams with a lower pH value, in the neighborhood of seven, attack razor blades very much less than do alkaline lathering shaving creams having a pH in the

neighborhood of 9.4. A series of experiments proved that addition of chromates to the cream protects razor blades to such a degree that they can be used three times as long. Bichromates, perchromates, peroxides, perchlorates, perborates and permanganates behave in the same way (French Patent 788,572). The addition of such compounds does not harm the skin.

Some precautions in making ordinary shaving soaps may be mentioned. A good grade of coconut oil should require no further purification. Stearic acid should generally be melted and treated with steam to remove impurities and odorous materials, then used immediately for saponification. Vessels of enamel, nickel-plate, chromium-plate or Monel metal are recommended. Shaving soap should be crutched in a more moist condition and at a lower temperature than toilet soaps. A few formulas follow:

Shaving Soaps

(CANADIAN PATENT 332,123)

Stearin	4500 g.
Lanolin	877 g.
Triethanolamine	145 g.
Borax	145 g.
Carbitol	300 cc.
Water	18000 cc.
Aromol	14 cc.
Rose-geranium	113.2 g.

(NORWEGIAN PATENT 56,620)

Stearic acid	50 g.
Glycerine	37.5 g.
Ammonia, 25 per cent	15 cc.
Water	120 cc.
Buttermilk, pretreated	30 cc.
Soap powder	5%
Color and perfume	

Shaving Creams

(U. S. PATENT 1,979,385)

	Parts
Stearic acid	15.
Triethanolamine	0.75
Diethylglycolmonoethyl ether	8
Menthol	0.75
Alcohol	0.5
Water	75.

(U. S. PATENT 2,085,733)

	Parts
Cellulose alkyl ether	27.7
Glycerine	5
Sodium lauryl sulfate	1
Mineral oil	15
Menthol	0.1
Bergamot oil	0.2
Water	2

The method of preparation of the creams depends on the nature of the fat components. An emulsion of fat, lye and water can be stirred together by the semi boiled process, or a cream-concentrate can be prepared much in the same manner as for soap, after which the ground mass is allowed to swell in water. G. v. Krueger. *Fette und Seifen* **45,** 523-5 (1938).

OFF-COLOR SOAP?

In spite of all the work on the prevention of soap discoloration, it is still a common complaint among soapers. A resume of the recent experiences of soap experts with discolored soaps written by Joseph M. Vallance of London will be published in an early issue of SOAP. Watch for it!

Rosin in Soap

The production and consumption figures of rosins show that the soap industry continues as a large user of rosins, the paper industry using more and the paint and varnish industry less than the soap industry. Advantages obtained by the incorporation of rosins in soap are that they give it a waxy property which prevents cracking; they facilitate lather formation; and they increase solubility. The rosins not only replace more costly fatty materials but contribute to the good quality of the soap. The lather from rosin-containing soap has good detergent power and a gentle action on the skin, which justifies inclusion of small amounts of rosins in toilet soap. *Les Matieres Grasses* **30,** 250 (1938).

Shaving Creams

A typical shaving cream which is inexpensive to make and which is of reasonably good quality, contains the following:

	Parts by Weight
Coconut oil	12
Tallow, best quality	26
Potassium carbonate	4
Glycerine	5
Caustic potash, 41°Be	18
Caustic soda, 36°Be	1
Water	34

The cream is made by semiwarm emulsification of the fats and lyes, the mass being then left for an hour or more to thicken and saponify. The pearl ash is subsequently crutched or mixed in, in hot solution, until a smooth uniform cream is obtained. The glycerine is best added by means of steady milling or stirring,—not beating, when the cream is quite cold.

A brushless shaving cream may be based on the following:

	Parts by Weight
Stearic acid, triple pressed	21.0
Cetyl alcohol	1.0
Lanolin	1.2
Caustic potash, solid	0.8
Glycerine	5.0
Perfume	0.5
Water	70.5

It is a good plan to incorporate as much water as the product will reasonably stand, to facilitate shaving. The procedure consists of melting together the first 3 items and carefully heating to 65-70°C., together with the glycerine. Caustic potash dissolved in hot water is then run in at the same temperature, emulsification being facilitated by means of brisk stirring. When the cream has thickened uniformly it should be run into earthenware, stainless-steel or Monel-metal containers to cool. After standing overnight, the perfume is incorporated and the cream stirred, kneaded or milled until it is of the right consistency for filling tubes.

A formula for a liquid shaving cream is as follows:

	Parts by Weight
Stearic acid	9.0
Triethanolamine	1.5
Glycerine	8.0
Cetyl alcohol	1.0
Lanolin, anhydrous	3.0
Mineral oil	7.0
Water	70.5

A small proportion of quince-seed mucilage may be incorporated for its combined stabilizing action and pleasant sensation on the skin. S. P. Jannaway. *Perfumery & Essential Oil Record* **29,** 354-60 (1938).

Hexalin Soap

A liquid soap can be made more economical in use and given improved detergent powers by the incorporation of hexalin. As a suitable composition, add to a solution of 10 parts of Marseilles soap in 200 parts of water, 10.5 parts of hexalin or methyl hexalin. Ohl. *Allgemeine Oel- und Fett-Ztg.* **35,** 339 (1938).

Products and Processes

Sulfonation Products

High molecular-weight fatty alcohols or naphthene alcohols are treated with excess of concentrated sulfuric acid in the presence of excess of indifferent aliphatic halogenated or nonhalogenated hydrocarbons, especially *alpha, beta*-dichloroethane, as solvent, at temperatures up to 45° C., to give sulfonation products. Henkel & Cie. G.m.b.H. German Patent No. 661,883.

Heating of Stored Soap

Heat development in stored soap due to compressive swelling leads to a musty odor and may ultimately cause charring of stored soap powders and flakes. Such heat development is favored (1) by subjection of the soap, which is undergoing swelling due to water absorption, to pressure by overlying soap, (2) by intimate mixing of very finely divided wet and dry soap, and (3) by too high a storage temperature. Accordingly freshly made soap flakes should be cooled in thin layers with free ventilation before packing. Mixing flakes of a different water content in silos should be avoided. H. Zilske. *Seifensieder-Ztg.* **65,** 17-19, 38-9, 56-7 (1938).

Fatty Acid Esters

Fatty acid esters of high molecular weight can be prepared by controlling the usual process of hydrogenation by which fatty acids are reduced to fatty alcohols. Certain agents, of which a sulfur derivative of quinoline is one, modify the effect of the hydrogenation catalyst in this way. What happens is that part of the fatty acid is reduced to alcohol, that is, part of the —COOH groups present are changed to $—CH_2OH$. The high molecular-weight alcohol then reacts with remaining fatty acid to form an ester of fatty alcohol with fatty acid. A phosphorus derivative of oleic acid does the same thing. Fatty alcohols can be obtained from the esters by saponification. The method is patented by Boehme Fettchemie G.m.b.H. in German Patent No. 659,495. *Les Matieres Grasses* **30,** 248 (1938).

Sudsing Agent

Sudsing and detergent agents are made by reacting an aliphatic alcohol containing 10-22 carbon atoms with a solid reagent consisting of the reaction product of chlorosulfonic acid on a metal salt of the group consisting of chloride and sulfate. The metal should be one which forms in the reaction a salt of the sulfuric ester of the alcohol, which is soluble in water. Proctor & Gamble Co. of Canada, Ltd. Canadian Patent No. 377,307.

Hard Water Soaps

When soaps derived from polyethylenic fatty acids, that is, fatty acids having two or more ethylenic groups such as linoleic acid, are incorporated with phosphates of alkali metals such as trisodium phosphate or disodium phosphate, the resultant product gives rise to little or no precipitation of insoluble soaps in hard water. Such soaps are produced in a form which will ensure rapid solubility in water. The ratio of orthophosphates, calculated as anhydrous salts, to fatty acids, is from 1:10 to 1:4. A small percentage of saturated fatty acids may also be present. Lever Brothers Ltd., Richard Thomas and Henry B. Oakley. British Patent No. 492,719.

New Soap Substitute

Sulfanole P.B., made by the Warwick Company, Warwick, R. I., is used for soaping, scouring, boiloff and dyeing operations. It is a soap substitute claimed to possess properties normally associated with sulfated fatty alcohols. It is said to be resistant to acid, alkali, hard water and metallic salts, and very efficient as a detergent, with excellent rinsing speed. The claim is made that it will markedly reduce the cost and increase the efficiency of any operation in which soap is usually employed. *Am. Dyestuff Reporter* **27,** 680 (1938).

Soapless Hand Paste

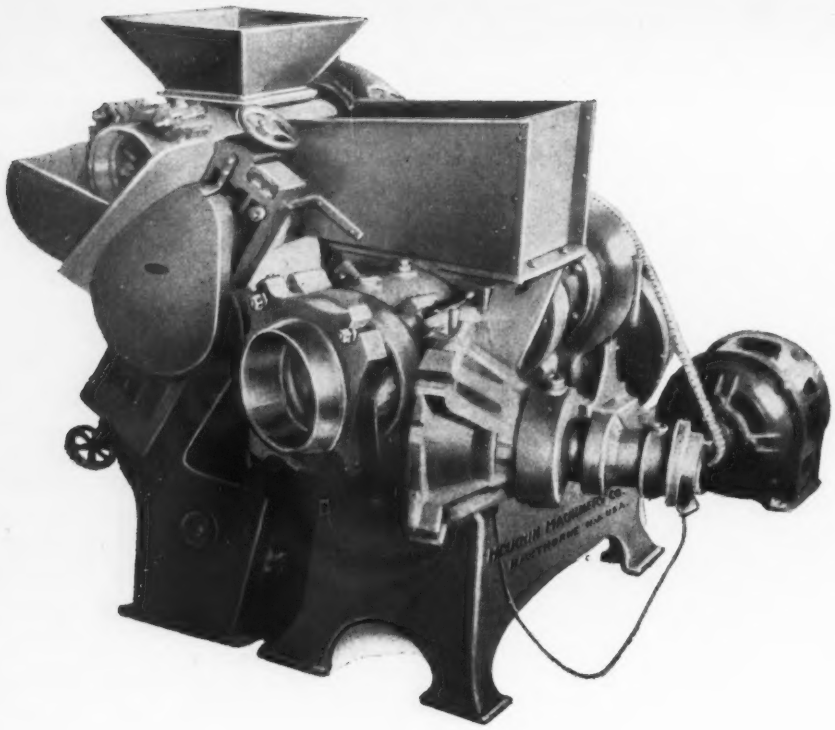
A hand-washing paste without soap is made from 100 grams of quillaja bark heated with 300 grams of water on the steam bath. After half an hour the extract is poured off. It will amount to about 200 grams. This is mixed with equal parts of kaolin and talc to give a thick paste, and is perfumed with benzaldehyde. Such a material made without soap must have emulsifying properties and must be plastic. As with soap pastes, trisodium phosphate, sodium metaphosphate, fatty alcohol sulfates, Lamepones, and various abrasives other than those mentioned may be added. *Seifensieder-Ztg.* **65,** 765 (1938).

Gum Tragacanth in Soap

Many filling agents are used in soap in Germany. While gum tragacanth may possibly be considered in this class, only a very small amount can be used. Soaps which appear to be too soft can be given more body by the addition of a little tragacanth, which also produces a milder better lather. For 100 kg. of soap 0.28-0.5 kg. if tragacanth is sufficient, mixed with 1 kg. of glycerine. The flakes are allowed to soak in water for several hours before use and then passed through a nonrusting sieve to remove any solid material. Florentin. *Riechstoffindustrie* **13,** 176-80 (1938).

Lather Shaving Cream

A shaving cream giving a good leather is made from 30 parts of stearin, 11 of coconut oil, 17 of 50° Be. caustic potash, 10 of glycerine, sp. gr. 1.23, and 32 parts of water. If desired the 32 parts of water may be replaced by 30 parts of water and two parts of triethanolamine oleate. *Seifensieder-Ztg.* **65,** 706 (1938).



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Dry-cleaning Aid

A mixture of isopropanolamines, $[(CH_3CHOHCH_2)_xN]$, containing mono-, di-, and triisopropanolamines is made by the Carbide and Carbon Company. The product is liquid at room temperature and forms stable, nondarkening soaps that are excellent emulsifying agents. These soaps are completely soluble in hydrocarbons such as mineral oil, naphtha and gasoline at concentrations below 2 per cent. This better hydrocarbon solubility and color stability makes them of special interest in dry-cleaning soaps and soluble oils. *Am. Dyestuff Reporter* **27,** 677 (1938).

Fatty Acid Liquid Soap

Liquid soap may be prepared from fatty acids by the semiboiled process. For a 15 per cent liquid soap use 12 parts of coconut-oil or palm-kernel fatty acids or a mixture of these, three parts of distilled olein or castor-oil, peanut-oil, soybean-oil or sesame-oil fatty acids, eight parts of 50° Be. caustic potash, 77 parts of distilled or soft water, one part of potassium chloride and 0.2-0.5 parts of perfume. After saponification and before addition of water, the soap is adjusted to weak alkalinity and tested for complete saponification. It is then diluted and allowed to clarify for 10-14 days at a low temperature. It is then filtered. *Seifensieder-Ztg.* **65,** 706 (1938).

Textile Assistants

Urethans useful as textile assistants are made by causing chlorocarbonic esters of abietinols to react with aliphatic or aromatic aminocarboxylic acids, aminosulfonic acids or amine-sulfuric acid esters. If the products are not water-soluble they may be made so by sulfonation. I. G. Farbenindustrie A.-G. British Patent No. 484,683.

Sulfonic Acids

Chlorides of higher aliphatic acids or of naphthenic or resin acids are sulfonated, and the temperature of the mixture is raised to above 40°C. before the products are washed, and if desired, neutralized. Products which are stable to hard water and are useful as emulsifying and washing agents are obtained. Oranienburger Chemische Fabrik A.-G. German Patent No. 662,182.

Washing Agents

Products that have washing, foaming and emulsifying properties are prepared by treating aliphatic oxido sulfonic acids having not more than six carbon atoms with fatty, resin or naphthenic acids having a carbon chain of at least eight carbon atoms. In an example, dry sodium 2, 3 - oxidopropane - 1 - sulfonate, diluted with sodium chloride, is heated with molten technical stearin. Friedrich Steinfels A.-G. British Patent No. 486,850.

Soap Cover

A pliable cover is so designed as partially to cover a soap cake, leaving one end of the soap free for use. The cover is made in such a way that it can be rolled back gradually as the free end of the soap is used up, without slipping off the soap. This is accomplished by having peripheral flutings in the cake of soap and a means of holding the sheath over these flutings. Claude Isaac Meyer. Canadian Patent No. 377,889-377,890.

Distilling Unsaturated Oils

Animal or vegetable oils such as perilla, linseed, walnut, poppyseed, soybean, sunflower, candle-nut, corn, cottonseed, fish oils rich in unsaturates such as salmon, sardine, menhaden and cod liver, are subjected to high-vacuum distillation to obtain a fraction free from proteins and rancid products and having an iodine value greater than 100. Short-path high-vacuum distillation is preferred. Hydrogen may be bubbled through the oil prior to distillation, the oil then being degassed in an apparatus heated to 100° C. and evacuated to a pressure of 100 mm. of mercury. Kenneth C. D. Hickman. British Patent No. 485,549.

Hollow Soap

A soap cake is made in hollow form to increase its size and render it buoyant. It is made of best quality toilet soap stock and is intended for small cakes for individual service, as in hotels and bathing establishments, where the cake is used only once, or a few times at most. In this way a cake is prepared at less cost but still serves the same purpose as a solid cake of much greater weight. Ruel Jones. British Patent No. 492,171.

Detergent

A fatty oil or fatty acid such as coconut oil fatty acid is caused to react with *beta*-methylglycerine or *beta*-methylglycidol and fuming sulfuric acid, the proportions of the reagents being chosen to obtain a monoglyceride, a substance of the monosulfate type and an excess of sulfuric acid. Colgate-Palmolive-Peet Co. French Patent No. 827,544.

Treating Raw Oils

By treating fatty oils so as to remove mucilaginous substances before alkali refining, it is possible to decrease oil losses during the refining process, to facilitate more effective decolorization and to produce lighter colored soap stocks. The removal of mucilaginous substances is essentially a process of coagulating a colloidal dispersion in oil of non-oily substances of high molecular weight. Solutions of acids or of barium hydroxide or other chemicals can be used for this. M. Singer. Seifensieder-Ztg. **65,** 357-9, 375-7 (1938).

Fats from Sugar

Fats were made from sterile molasses experimentally by spreading the latter out in trays in a very thin layer and inoculating with *Endomyces vernalis* at 20° C. Because of the cost of trays and the unreliability of the process, commercial adaptation was abandoned. H. Fink, H. Haehn and W. Hoerburger. *Listy Cukrovar.* **56,** 319-20 (1938); through Chem. Abs.

Additions to Mercerizing Lye

A reaction product of nitric acid with an unsaturated fatty acid, or a reduction product thereof, is added to lyes that already contain phenols and also wetting agents normally insoluble in the lyes such as hydrogenated aromatic compounds. In an example, a nitration product of oleic acid, crude cresol and cyclohexanol are added to a mercerizing lye; in another, a nitration product of oleic acid that has been reduced with sulfur dioxide, crude cresol and naphthenic acid are used. I. G. Farbenindustrie A.-G. British Patent No. 486,973.

Shaving Cream Specification

A new U. S. government specification for shaving soap and shaving cream has just been prepared by a technical committee appointed by the Federal Specifications Executive Committee. This specification which is FFF-C-641 will soon be ready for promulgation and will become effective not later than May 15, 1939. Copies of the complete specification may be secured from the Superintendent of Documents, Washington, D. C., at five cents each.

Three classes of shaving soap are considered,—cake, stick and powder. Two classes of cream are included,—lather and brushless.

Material specifications provide that shaving soaps shall be high-grade products free of caustic alkalinity that yield a heavy, creamy lather that will remain moist upon the face until the shaving is completed. In the case of class B (stick), the soap shall adhere to the face when the stick is moistened and rubbed thereon. In the case of class C (powder), the material shall be free-flowing and shall not cake in the container.

Lather cream, shall be a soft, uniform cream or paste free from free alkali. It shall be of such consistency that it will not flow from the tube without pressure, not require undue pressure to extrude it, and not lose its form when extruded from the tube. It shall distribute well into the bristles of a shaving brush and shall yield a heavy, creamy lather that will remain moist upon the face until the shaving is completed.

Brushless cream, shall be a soft, uniform cream or paste free from free alkali. It shall remain soft in the tube and shall spread easily.

General requirements demand that shaving soap of all three classes, as well as lather cream, must conform to the following test for lathering characteristics:

Lathering—Shake 100 ml of a 0.2 per cent (based on the nonvolatile matter) solution of the soap (type I, classes, A, B, and C and type II, class A) in distilled water at room temperature in a stoppered, 200-ml graduated cylinder 30 times in 15 seconds, and let stand at room temperature for 1 hour. The volume of foam above the liquid shall extend to the top of the cylinder and shall not decrease more than 10 per cent of its original volume in 1 hour.

Important items in the detail requirements are summarized in the following tables

SHAVING SOAP Type I	Classes A and B cake and stick		Class C powder	
	Minimum	Maximum	Minimum	Maximum
	Per cent	*Per cent*	*Per cent*	*Per cent*
Matter volatile at 105° C	—	10	—	2
Matter insoluble in hot 95% ethyl alcohol	—	.8	—	.8
Free alkali	—	None	—	None
Free fatty acids (calculated as stearic acid)	—	1.0	—	1.0
Matter insoluble in hot distilled water	—	.4	—	.4
Anhydrous soap (calculated as potash soap)	87	—	96	—
Amount passing a No. 20 sieve	—	—	100	—

SHAVING CREAM Type II	Class A lather cream		Class B brushless cream	
	Minimum	Maximum	Minimum	Maximum
	Per cent	*Per cent*	*Per cent*	*Per cent*
Moisture (xylol distillation method)	—	50	—	70
Matter insoluble in hot 95% ethyl alcohol	—	.3	—	—
Free alkali	—	None	—	None
Free fatty acids (calculated as stearic acid)	—	6.5	15	—
Matter insoluble in hot distilled water	—	.3	—	—
Anhydrous soap (calculated as potash soap)	40	—	—	—

To Change Patent Procedure

A number of proposals for changes in the procedure followed by the U. S. Patent Office in considering patent applications are currently under consideration by the advisory committee to the U. S. Secretary of Commerce. Some of these proposals may be modified considerably before adoption, according to Paul D. Boone, patent attorney, Natl. Press Bldg., Washington. The proposed changes, 37 in all, are summarized by him as follows:

Proposed Procedure for Oppositions in Granting Patent

No. 5. On the publication date the application (for patent) is published, and printed copies become available at ten cents per copy.

No. 7. The application file remains secret until the date of the patent.

No. 8. During three months after the date of publication, anyone may file one or more oppositions to the grant of part or all of the proposed monopoly (patent).

No. 10. A notice of opposition must be accompanied by the opposition of five dollars.

No. 12. Prior patents or publications cited in an opposition notice must be accompanied by a copy of the item cited, and full data as to the time and place that the item became effective as prior art.

No. 13. Allegations of prior invention, prior knowledge and use, and public use or sale must be shown by affidavits filed with the opposition.

No. 14. Inter - partes allegations are based only on opposer's patent application filed at or before the filing of the opposition notice, and such application must contain the claims opposed and must contain the applicant's statutory oath as to such claims.

No. 20. If any oppositions have been filed, the examiner studies them all promptly, in the same manner as if he had discovered the evidence and renders his decision thereon without notifying the applicant of the grounds of opposition, without a hearing, and without the filing of briefs.

No. 23. If the examiner sustains an opposition in whole or in part, he writes a brief office action and sends a copy to the applicant. The opposer receives merely a notice that the examiner has sustained the opposition and to what extent. The applicant then has two months in which to appeal to the Board or reach an agreement with examiner.

New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

516—New Wax Applicator

Fuld Bros., Baltimore, have just introduced a new line of applicators for floor waxes, seals and varnishes. They are offered in six sizes and in two models. The special model is equipped with a flexible spring handle-joint which permits reaching under low fixtures without changing the angle of the pad.

517—Offer New Agitator

Eclipse Air Brush Co., Newark, N. J., has just added another mixer to its "Pneumix" line of air motored agitators. Gears have a ratio of 40 to 1 for greater power in handling heavy materials.

518—New Toilet Seat

G. H. Tennant Co., Minneapolis, is now distributing a toilet seat of new design. The seat surfaces, of bakelite and stainless steel, offer a minimum of contact area. They can be covered with special toilet tissues for further protection.

519—Lather Dispenser

Clifton Chemical Co., New York, has issued a folder describing its "Lather Master" for dispensing warm lather for barber shop use. A special "Lather Master" shaving cream is offered for use with the device.

520—New Sprayer Line

Dobbins Manufacturing Co., North St. Paul, Minn. has just introduced the "Superbilt" sprayer line for 1939. The "Superbilt" line is especially recommended for applying scrubbing soap and floor cleaning compounds. One of the outstanding new features is a patented spray cap which develops a wide, fan shaped, flat spray. This gives faster and more thorough coverage, it is said, and also eliminates the danger of getting the spray on walls, baseboards or furniture. Jobbers and manufacturers may obtain complete information by writing the manufacturers or the publishers of SOAP.

521—Octyl Alcohol Folder

Carbide & Carbon Chemicals Corp., New York, has just issued a new 4-page folder describing octyl alcohol,—an anti-foaming agent. It is recommended for use in fruit washing and other operations where aqueous solutions cause undesirable foaming.

522—"Plaskon" Folder

Plaskon Co., Toledo, has issued a booklet "Molded Color" describing the physical properties and applications of the company's plastic resin materials which are available in white and a varied range of colors.

523—Mixer Folder

Mixing Equipment Co., Rochester, has just issued a new folder describing its line of "Lightnin" portable mixers. Copies are available.

524—Magnus Price List

Magnus, Mabee & Reynard, New York, have just issued a new catalog and price list on its line of perfuming materials.

525—Chemicals by Glyco

Glyco Products Co., New York, has just issued the latest edition of "Chemicals by Glyco." Copies available.

526—Brush Catalog

Flour City Brush Co., Minneapolis, has just published a new 1939 catalog of its complete line of brushes and miscellaneous supplies for the janitor supply trade. Copies available on request.

Japan's Soap Exports Up

Exports of toilet soaps from Japan during the first ten months of 1938 were valued at 2,991,605 yen and the value of laundry soap exports was 3,260,718 yen. Corresponding figures for the same period of 1937 were 2,482,429 yen and 2,000,511 yen. The average export price of a dozen cakes of toilet soap was 0.89 yen in 1938 as compared with 0.65 yen in 1937 and 0.70, in 1936.

Woodbury Off Fair Trade

Andrew Jergens Co., Cincinnati, withdrew "Woodbury's" soap from the protection of the fair trade law recently in Illinois, Indiana, Iowa, Ohio, New Jersey and New York. The reason given for the change was that manufacturers of competing toilet soaps were not on the fair trade list and sales of "Woodbury's" soap had suffered in states in which the law is in effect.

Canadian Soap Exports Gain

According to a report of the Dominion Bureau of Statistics, Canada's exports of soap in October totalled 1,230,983 lbs., valued at $120,097 as compared with 546,296 lbs., with a value of $57,726 reported for October 1937. Toilet soap accounted for the major part of the exports, amount to 1,193,913 lbs., of which 1,102,204 lbs. went to the United Kingdom.

Firmenich Returns Home

Andre Firmenich, partner of Chuit, Naef & Cie., Firmenich & Cie. Succrs. of Geneva, Switzerland, perfume specialties, returned to Geneva recently after spending about six weeks in United States.

Rosenthal Marks 20th Year

H. H. Rosenthal Co., New York, importer and dealer in chemicals, drugs, oils and waxes, recently celebrated the twentieth anniversary of its establishment.

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No. 2,135,325, Apparatus for Finishing Soap, Patented November 1, 1938, by Robert V. Burt, Cincinnati, and Robert A. Duncan and Robert J. Short, Wyoming, Ohio, assignors to The Procter & Gamble Company, Cincinnati. A soap treating machine comprising in combination two coaxial cylinders having abutting flanges, the flanges cut away at two sides to leave a passageway across and between the two cylinders, grooves forming a slideway on opposite sides of the passageway formed in the meeting faces of the flanges, complementary screening elements movable across the passageway in the grooves, means for forming the complementary screening elements into position between the cylinders and withdrawing the same therefrom, a single shaft passing through both cylinders, feeding flights on the shaft within the cylinders, the complementary screening element arranged with complementary curved portions to seat over the shaft between the cylinders.

No. 2,135,969, Apparatus for Producing and Dispensing Soapy Solutions, Patented November 8, 1938, by Joseph G. Donaldson, Brentwood Heights, Calif. A washing apparatus including a closed container, a fluid conduit, a by-pass leading from the conduit and communicating with the lower end of the container, a one-way valve positioned within the by-pass and permitting the fluid to pass into the container, a fluid outlet positioned at the upper portion of the container, a mixing chamber communicating with the first-mentioned fluid conduit beyond the by-pass, a conduit leading from the fluid outlet of the container to the mixing chamber, and a manually operable valve positioned within the last-mentioned conduit, the last-mentioned valve in one position of adjustment permitting ready flow of fluid from the container to the mixing chamber and when in another position of adjustment cutting off flow of fluid from the container to the mixing chamber but permitting building up of pressure in the container through the by-pass.

No. 2,135,987, Insecticide Composition, Patented November 8, 1938, by Donald F. Murphy, Bristol, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. A non-aqueous insect spray that is a dilute solution of at least one insect poison and an anhydrous wetting agent in an anhydrous organic liquid selected from the group consisting of kerosene and other petroleum distillates, the mono-alkyl ethers of ethylene and diethylene glycol, benzene, and ethylene dichloride.

No. 2,136,001, Machine for Cutting Bars of Soap and Other Plastic Material, Patented November 8, 1938, by Clarence F. Carter, Danville, Ill. A machine of the class described including a frame, a conveyor mounted for travel on the frame and adapted to receive a continuous bar of plastic material from a source of supply, means for synchronizing the speed of travel of the conveyor with the discharge of material from the source of supply, a guide cam, a cutting element disposed in the path of travel of the bar of plastic material for cutting the bar in predetermined lengths, a contact member carried by the cutter element, and means for directing the contact member in engagement with the guide cam during the cutting operation.

No. 2,136,029, Apparatus for Deodorizing Vegetable Oils, Patented November 8, 1938, by Joseph Stewart, Elmhurst, N. Y. An apparatus for deodorizing vegetable oils comprising a deodorizing vessel having a suction outlet at its top for volatile products, an encased oil heating device having a suction outlet at the top of its casing for volatile products and having in its casing an oil heating means, means for discharging oil from the oil heater by gravity into the upper part of the deodorizing vessel above the oil level therein, an upstanding restricted oil conduit exterior of the deodorizing vessel the upper end of the conduit leading into the oil heater casing to deliver oil and steam over the heater subject to sub-atmospheric pressure in the casing, means connecting the lower end of the conduit to the bottom of the deodorizing vessel, means connecting the conduit to the upper portion of the deodorizing vessel at a point above the level of the oil therein, means for discharging a steam jet upwardly into the conduit adjacent the lower end of the conduit, and valves for at will causing the oil to flow from the bottom of the deodorizing vessel with steam from the steam jet through the restricted conduit to the heater and thence back to the upper part of the deodorizing vessel, or from the bottom of the deodorizing vessel through the conduit into the upper part of the deodorizing vessel above the level of the oil therein, whereby small quantities of oil with steam may be passed through the heater under sub-atmospheric pressure for the first deodorizing step, and the oil then delivered into the deodorizing vessel and continuously withdrawn in small quantities from the bottom of the deodorizing vessel and subjected to steam in the upstanding oil conduit and the steam and oil discharged into the deodorizing vessel above the level of the oil therein for the final deodorizing step to ensure the withdrawal of vapors and steam from the incoming oil before the incoming oil contacts the oil in the lower part of the deodorizing vessel.

No. 2,136,283, Process of Making Soap, Patented November 8, 1938, by Henry Randel Dickinson, Grand Rapids, Mich., and Henry H. Moreton, Santa Monica, Calif. A process of making soap comprising creating a positively flowing stream of heated lye solution, causing the flowing stream of heated lye solution to induce the flow of a liquid containing fat constituents, and effecting saponification by causing the two flowing streams to mix and then to be atomized by being discharged into space through an atomizing orifice, the mixing stage being effected back of but closely adjacent to the orifice.

No. 2,136,806, Germicidal Detergent, Patented November 29, 1938, by Halvor O. Halvorson, and John L. Wilson, St. Paul, and Erling J. Ordal, Minneapolis, Minn., assignors to Economics Laboratory, Inc., St. Paul, Minn. A germicidal detergent composition comprising buffer salts, soap and azochloramid, the composition being soluble in water, and a solution made therefrom, and containing from ½% to 3% of the composition, containing only a small fraction of 1% of the soap and azochloramid, the azochloramid being present in amounts insufficient to render such solution germicidal in the absence of the soap.

Hard Water Resistance

Hard water resistance, or the power of agents to disperse calcium soap, was studied with the use of Congo Rubine as an indicator. With this indicator it is assumed that formation of insoluble calcium oleate leads to the simultaneous coagulation of Congo Rubine, with a characteristic color change from the red colloidal dye to lilac. Two cc. of 0.05 per cent Congo Rubine solution plus 2 cc. of a 0.2 per cent sodium oleate solution in a series of test tubes, were treated with varying volumes of a 1 per cent solution of the agent to be tested. The whole was then made up to 15 cc. with distilled water and mixed with 5 cc. of a 0.5 per cent calcium chloride solution. The color change was observed after 10 minutes and the volume of auxiliary agent solution just sufficient to prevent the change, noted. The method is suitable for testing a number of types of auxiliary agents, but not for all of them, e. g., not for sodium cetyl sulfate. A number of other methods of determining hardness resistance quantitatively are discussed. S. R. Ramachandran, I. S. Uppal and K. Venkataraman. *J. Soc. Dyers & Colourists* **54,** 520-6 (1938).

Sulfur Soap

A cold-process sulfur soap may be made from 100 parts of coconut oil, 10 parts of flowers of sulfur and 50 parts of 38° Be. caustic soda. The flowers of sulfur are mixed to a paste with 10 parts of coconut oil. The rest of the oil is melted and filtered through cloth. Orange-yellow is a good color for it. The caustic lye is slowly stirred into the melted coconut oil, which is not over 40° C. when the lye is added. The mass usually thickens in about 35 minutes, when the sulfur paste is added. The odor can be covered by adding a mixture containing equal proportions of thymol, naphthalene, oil of mirbane and oil of nutmeg. An addition of five per cent of lanolin or similar superfattying agent is of advantage in sulfur soaps.

Flowers of sulfur may also be added by crutching it directly into the soap, provided the rollers are powerful enough. Otherwise the sulfur may be dissolved in carbon disulfide for addition. Perfuming of this soap is accomplished by the incorporation of five per cent of a mixture containing one part of light creosote oil (sp. gr. 1.03), two parts of oil of citronella, one-half part of oil of terpentine, one-half part of oil of thyme and one part of terpineol. When the sulfur is ground into the soap directly, the result is a non-hygroscopic product having a high polish and good glaze. A. N. Ghosh. *Indian Soap J.* **5,** 77-80 (1938).

Chypre Perfume for Soap

The fundamental odor known as chypre is that of a moss, a lichen which grows parasitically on both oak and pine trees in France. Concrete made from oak moss is more expensive than that from pine. Both concretes are usually green in color and as such would be undesirable in soap. However, the color can be removed by dissolving the concrete in benzene and treating with a small amount of carbon. The chypre note in soap can be reenforced by a small amount of methyl acetophenone. A number of other additions may be made, such as musk xylene, lavendin, spike lavender etc. L. M. Labaune. *Revue des Marques Parfums* de France **16,** 41-2 (1938).

Viscosity and Iodine Value

The viscosity and density of fats and fatty acids has a definite relation to iodine value. The viscosity of pure linoleic, oleic and stearic acids were determined at 20-90° C. It was found that viscosity decreases linearly with an increase in the degree of unsaturation, as shown by the iodine value. During hydrogenation of a mixture of cottonseed and linseed oils, viscosity increases and density decreases, the change in viscosity being almost linear with the change in iodine value. Viscosity and dilatrometric methods can be used to study the initial stage of hydrogenation of cottonseed oil. G. B. Ravich. *Acta Physicochim. U. R. S. S.* **6,** 205-12; through Chem. Abs.

Spray Drying

In spray drying, the original solution is continually sprayed into a chamber and subjected to the action of a stream of drying gas, usually preheated air or the diluted products of combustion. One of the most important aspects of the process is the physical form of the product, which is usually granular. The individual particles are generally rounded in shape and hollow to a degree which is controllable over a rather wide range. For a material such as soap this form has important advantages, chief of which are rapid solubility, lessened hydroscopicity, and unusual mobility in handling. The hollow form of the spray-dried particle gives a more bulky product than is obtained by other drying processes.

The other important advantage of spray drying is the rapid rate and relatively low material temperature at which drying is accomplished. From 15 to 30 seconds is a fair estimate of the time a particle stays in the spray-drying chamber when passing from liquid to solid form. The particle temperature need not rise materially above the wet-bulb temperature of the liquid of the solution. This makes the process particularly adapted to the drying of a heat-sensitive material such as soap. Ben B. Fogler and Robert V. Kleinschmidt. *Ind. Eng. Chemistry* **30,** 1372-84 (1938).

Detergent Recovery

Clothes are washed by means of an alkaline soap solution in a laundering machine in such a way that the alkaline soap solution is prepared in a storage tank outside the machine. The laundering machine is charged with the soiled clothes, soap solution added from the tank, and the wash solution is subjected to a centrifugal separating process during the washing operation to remove emulsified insoluble dirt. After the washing operation is finished, excess washing liquid is collected for use in a subsequent washing operation. Alfred Ekström. Canadian Patent No. 377,617.

Glycerine

(*From Page* 23)

price of glycerine. Ethylene glycol, the principal substitute so far, has replaced glycerine in some industrial uses, but the Food and Drug Administration does not permit its use in cosmetics, foods, beverages, or medicines. Propylene glycol is being produced in comparatively small quantities, and, like ethylene glycol, but in a lesser degree, has alleged toxic properties which make it undesirable for human use.

Sorbitol is much heavier than glycerine and is sold commercially in an 85 per cent solution because the pure sorbitol is too viscous to pour. The principal claims made for sorbitol are that it has greater humectant value than glycerine and that on account of its composition and vegetable origin it has none of the alleged toxic properties of the glycols. Most of these claims are yet to be proven.

Sugars have always been substitutes for glycerine, or it may be more accurate to say that glycerine, while sweeter than sugars, is so much higher priced that it only replaces sugar where it has particular advantages in blending the product or keeping it moist.

Up to the present time, no satisfactory substitute for glycerine has been discovered. It is conceded by most users that glycerine today is better and cheaper than any substitute, and its future possibilities seem practically unlimited when viewed in the light of the chemical developments of the past fifteen years.

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Phosphates

(*From Page* 26)

convert the magnesium salts in the water into a form in which they cannot react with the soap, and this releases an equivalent amount of soap for foaming and dispersing purposes. Since the combining weights of the sodium pyrophosphate are considerably less than soaps, the pyrophosphates will release considerably more than their own weight of soap for active detergency.

This effect results in a much increased efficiency of the soap as a cleansing agent.

At pH 10.2, the normal pyrophosphates are stable in solution over long periods of time and hydrate to the orthophosphate only very slowly even at elevated temperatures. Increasing the alkalinity retards this reversion, while decreasing it increases the rate. This makes possible the incorporation of the pyrophosphates with soaps in the kettle or in the crutcher and long storage on the shelves without a measurable loss of effectiveness due to hydration.

The Metaphosphates

SODIUM hexametaphosphate, known as Graham's salt, is the representative of the metaphosphates that is of importance in the detergent field. It is made commercially by heating monobasic orthophosphate to fusion and cooling it quickly. Sodium hexametaphosphate is a soluble, glassy substance, available in the form of large plates which dissolve slowly, or of very thin flakes which dissolve with great rapidity. In solution, it has a pH of approximately 6.5, but it is ordinarily used in connection with sufficient sodium carbonate or other alkaline material to raise the pH to approximately 8.5. At this pH, it is compatible with soap and wholly effective as a water softener.

The outstanding characteristic of sodium metaphosphate is that it binds the calcium and magnesium in hard water in soluble form so that the water can be made alkaline and treated with soap, and no precipitation of any kind will occur. This has recently become known as water "normalizing" rather than water softening. This means that the water containing the sodium metaphosphate is for all practical uses soft water, although it may contain 500 or 600 parts per million of calcium and magnesium hardness. Whereas trisodium phosphate softens water by removing these impurities as insoluble precipitates, metaphosphate holds them as soluble complexes which have no detrimental reaction. Thus, a washing solution containing soap and metaphosphate in hard water is as clear as a solution of distilled water and soap.

By the use of sodium metaphosphate, the problem of insoluble soaps is eliminated, for since no curds are formed in the solution, none can adhere to the fibers nor to the washing equipment.

One of the most important uses of the metaphosphate is in the rinsing of goods that have been washed with ordinary washing solutions and which have picked up certain amounts of insoluble soaps. A rinse with the metaphosphate will completely remove these soaps.

Sodium metaphosphate has a variety of applications, such as a conditioner for boiler feed water, as a constituent of commercial and household dishwashing compounds, as a laundry rinse to remove residual soaps, as a bath salt, and as a water conditioner for general household use. It is also sold as a therapeutic agent for treating burns, rashes, and skin irritations.

Thus, phosphates of one type or another are used to produce a variety of environments in which soap can work. They range in alkalinity from pH 12 for trisodium phosphate to 6.5 for sodium metaphosphate. They precipitate, disperse, or keep in solutions the hardness of water, they prevent discoloration of the clothes by iron in the water, they dissolve gums, they peptize solid particles of dirt, they increase the detergency of soap. Altogether, we must admit, they are a very important family in the field of modern detergents,—aiding soap to maintain its position of preeminence in detergency in competition with the ever growing group of new synthetic detergents.

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Type Cleaning Preparation

Printers' type may be cleaned with collodion mixed with a finely divided solid such as chalk. The composition is applied, allowed to dry and then stripped off. G. K. H. Ameen and C. E. V. Dahlqvist. Swedish Patent No. 91,936; through *Chem. Abs.*

Higher Fatty Alcohols

(From Page 29)

The catalyst compositions prepared according to the manner described above and corresponding to those catalysts disclosed in my copending application, Serial No. 470,238, filed July 23, 1930, are eminently suited to use in the present invention. I prefer to use a chromite composition consisting substantially of zinc chromite, but containing lesser quantities of the chromates or chromites of copper and cadmium.

"Temperatures as low as 200° C. may be used in conducting the reaction, but the most satisfactory results are obtained between 300 and 400° C., depending somewhat on the catalyst composition selected and the chemical nature of the acid to be reduced.

"The minimum pressure at which it is desirable to operate is about 13.5 atmospheres, the best results being obtained at higher pressures, usually between 100 and 205 atmospheres. Elevated temperatures and pressures are essential to the success of the process, but within the operative limits of temperature and pressure, the temperature is the most important factor in determining the yield of hydrogenation products. Thus, when the reaction is conducted at the higher temperatures with the lower operative pressures, the yield is much greater than is obtained when the lower temperatures are used with the higher pressures. The higher temperature limit is determined by the temperature at which undesirable decomposition takes place and in so far as I am aware the higher operative pressures are limited only by practical considerations for obtaining exceptionally high pressures. The optimum pressures will vary somewhat depending upon the acid treated and the degree of hydrogenation and freedom of the product from side products desired.

"The ratio of hydrogen to acid may also be varied over a wide range. While it may not always be strictly necessary, I prefer to use an excess of hydrogen, say from 2 to 10 moles per mole of acid hydrogenated.

"The rate at which the acid may be passed over the catalyst is a function of the molecular weight of the acid and the catalyst activity of the contract mass. For the ordinary acids I prefer to pass from 2 to 8 volumes per hour per unit volume of catalyst, but higher rates may be employed at the expense of slightly lower conversions.

"The acid may be employed in liquid form or, if it is a solid, it may be dissolved in a solvent and the solution treated as for the pure acid. Mixtures of acids such as are obtained from naturally occurring products may be reduced as well as the individual acids in a pure state.

"As demonstrated in the examples, the process may be operated to produce either alcohols or esters as the major products. Thus, a high rate of flow and the lower operative temperatures favor the formation of esters, whereas conditions tending to cause more complete hydrogenation, i. e., a low rate of flow and high temperatures, favor the formation of alcohols.

"The process of the present invention is unique in the success that has attended control of the expected side reactions. It was well known prior to my discovery that alcohols, particularly those of high molecular weight, are very susceptible to dehydration to hydrocarbons at high temperatures, a reaction which is not appreciably inhibited by application of pressure. Another reaction which is characteristic of carboxylic acids is decarboxylation with the formation of carbon dioxide and a hydrocarbon having a lesser number of carbon atoms. By careful control of the operating conditions and selection of catalyst, these troublesome side reactions have been suppressed to such an extent that they are now of negligible importance.

"As a method for the preparation of alcohols and esters, the hydrogenation of acids possesses distinct advantages over the hydrogenation of either the simple esters or glycerides of the acids. The esters of acids with the simple alcohols occur only rarely in nature and must usually be synthesized specifically for use in the hydrogenation process. After hydrogenation the desired products must be removed from the undesired alcohols introduced in the esterification process. Both extra operations are avoided by use of the free acids. Glycerides, while relatively inexpensive, lead to products on hydrogenation which are rather difficult to separate, owing to the presence of glycerol and its decomposition products.

"The present invention is applicable to the synthesis of alcohols and esters from a very great number and wide variety of carboxylic acids. The configuration of the acid is relatively unimportant. Best results are obtained by use of the classes of acids known as aliphatic and hydroaromatic acids, but the invention is not limited to these as the process may also be applied to hydroxy or ketonic acids, monobasic or dibasic acids, or aromatic acids containing the carboxyl group in an aliphatic side chain.

"From the foregoing it will be apparent that I have developed a new process for producing higher alcohols cheaply and in unlimited quantities starting with the acids derived from the naturally occurring fats and oils and without the use of expensive chemical reagents. The practice of my invention makes available a new and economical source of supply for these alcohols which will tend to develop important uses for the higher alcohols and their derivatives."

Lazier was granted twelve claims in this patent and, from the above, it appears that he had a good idea of just what was possible by his process and that he had worked out practically all of the necessary details, before applying for the patent. Also see British Patent No. 385,625.

A review and discussion of further patents, both U. S. and foreign, covering higher fatty alcohol preparation will be published in the next issue.—The Editors.

A colloidal solution of turpentine oil in water is used for washing the skin. Samuel Miaulet. French Patent No. 823,714.

Sanitary Products SECTION

A Section of "SOAP" dealing with

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

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a wish —

— that happiness, peace and prosperity may be yours throughout the New Year and that *"good will toward men"* be more than an angelic expression.

JOHN POWELL & CO., Inc.

Specialists in Pyrethrum and Rotenone Products

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LOOKING BACK OVER 1938

The Trade's Outstanding Pyrethrum Extract

proves to be

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A product of

R. J. PRENTISS & CO., INC.

100 Gold Street *EST.* 1908 **New York City**

Licensed Cube Distributors under Dennis Patent 18,667

HOW WAS YOUR FLY SPRAY BUSINESS IN '38

Retail buyers insist on a fly spray entirely free from disagreeable odor. If the odor of your product has been inadequately neutralized . . . if your product is poorly perfumed . . . if it lacks "fragrance appeal," it has probably failed to fulfill sales expectancy.

Improve your product . . . and you'll improve sales!

It's a fact that correct neutralizing and perfuming are paramount factors in marketing successful Insecticide Sprays.

By using these excellent perfumes, developed by Felton Chemical Company, Inc. after years of research and actual market tests, you are sure of correctly neutralized and pleasantly perfumed sprays at an unusually economical cost.

KEREX 11 — For Lethane Sprays. Tested and approved by Rohm & Haas, manufacturers of Lethane.

KEREX L'ORIENT — A sweet vanilla like fragrance.

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SEND US A SAMPLE OF YOUR UNPERFUMED SPRAY SO THAT OUR LABORATORY CAN RECOMMEND THE MOST ADVANTAGEOUS PERFUME

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UNDER CONTROL!

What's the difference between the steam power that turns the giant drivers of a modern locomotive and the steam power that feebly tipped the lid of James Watt's teakettle?

None! It's the same principle—water expanding hundreds of times when heated. All the years of work that have intervened have brought us just one thing:

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Does killing power seem a far cry from the power that drives a locomotive? Let's see.

Pyrethrum, the legend goes, was discovered by a woman who idly threw some flowers in the corner of a room — and discovered killing power. But notice this. The killing power in that heap of flowers is no different from the killing power of pyrethrins that we know today—except for one thing:

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When it comes to the control of killing power, the matter of producing pyrethrins in a concentrate that will not vary in purity or strength from a rigidly set standard — this company feels that it cannot be surpassed by any other commercial source.

Pyrocide 20 is manufactured by an exclusive, patented process under the supervision of no less than nine graduate chemists. At three stages in this process, assays are made to determine its pyrethrin content. These assays are further checked by physiological tests.

We guarantee that Pyrocide 20 contains 2.5% pyrethrins by weight, equivalent to 2 grams pyrethrins per 100 cc.

You need not accept this guarantee on its face. Fortunately, this concentrate contains no active principle but pyrethrum, and the assay of Pyrocide 20 made by us immediately before shipment is easily confirmed upon delivery by any competent chemist. McLaughlin Gormley King Co., Minneapolis, Minn.

PYROCIDE 20

THE PUREST FORM OF PYRETHRINS COMMERCIALLY AVAILABLE

....prepared?

AS a manufacturer of insecticides, disinfectants, sanitary products, or chemical specialties, are you prepared for the exigencies of the 1939 legislative situation? Do you know that over 40 state legislatures and the U. S. Congress will be in session in 1939?

WILL you be kept informed promptly of legislative developments? Will your interests be safeguarded? With this in mind we suggest that this might be a wise time to consider membership in the National Association of Insecticide & Disinfectant Manufacturers. The dues are small; the service is great.

▼

National Association of
Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street — New York

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GIVAUDAN CONTRIBUTIONS

To Soap and Insecticide Progress

Following are a few of the new products developed by Givaudan during 1938. Each fills a special need for a special purpose—and all represent, in timeliness and quality, the progressive nature of the service Givaudan is giving to manufacturers of soaps, insecticides, disinfectants and similar materials. Check the list below and investigate those which can be used with profit in your products or processes.

PARATINTS C—A group of 14 new odors for coloring and perfuming paradichlorobenzene blocks. Odors are true to type and the colors more brilliant than those of the older series of Paratints. They are also available without colors. Two new scents, Gardenia and Sweet Pea, are included. The price is low.

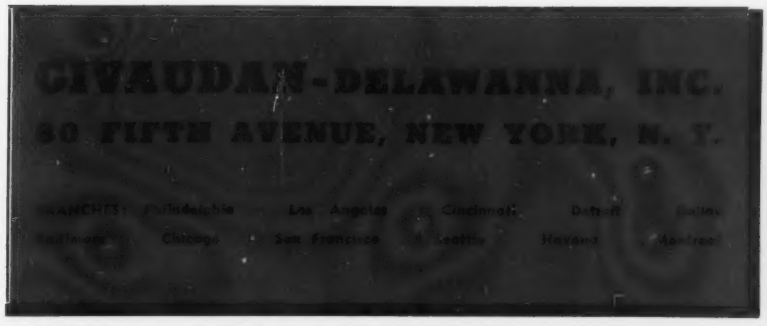
SAVARONE No. 1—A newly developed low-priced product having a refreshing, powerful and pungent scent . . . Produced primarily for use in inexpensive soaps, it is found ideally suited for all types of cleansing and polishing compounds as well as for disinfectants and para blocks. Its strength makes it ideal as a deodorant to modify or cover undesirable odors.

PINE FOREST ODOR — Givaudan has developed an excellent pine forest scent that is giving excellent results in scenting the air in large air conditioning units such as in department stores and theatres. In planning next summer's line it will be desirable to investigate the possibility of a pleasing, refreshing scent in air conditioning installation.

TWO NEW, POWERFUL WITCH-HAZEL ODORS—Available for the first time. Givaudan offers two synthetic Witch-Hazel odors, 150 times stronger than the natural Witch-Hazel extract. Two grades are available: WITCH-HAZEL PERFUME EXTRA FINE for emulsified lotions, creams, etc., and WITCH-HAZEL PERFUME F.C., recommended for use in soaps. In soap we recommend our F.C. grade, using ¼ of 1% or a little more. In lotions or creams 1/20 to 1/10 of 1% of the Extra Fine quality. They will not discolor and are non-irritating.

FOR ALL TYPES OF FLY SPRAYS —GIVAUDAN is constantly bringing out new odors for fly sprays compounded with pyrethrum, lethane, or pyrethrum substitutes as the toxic principal. A number of new odors have been introduced during the past year. Send us samples of your unperfumed sprays and let us show you how their sales appeal can be increased through the use of odor.

Further information on these and other Givaudan specialties is available on request . . . and our staff will gladly assist you in all matters pertaining to their use.



2 grams of Pyrethrins per 100 c. c. of PYREFUME Super 20

YOUR yardstick for measuring the quality of pyrethrum concentrates should be pyrethrins content—for pyrethrins are their active insecticidal principle. Important then to insecticide manufacturers is our pledge:—

"PYREFUME Super 20 is guaranteed to contain not less than 2 full grams of pyrethrins in every 100 cc."

NOT merely a 20 to 1 extract, PYREFUME must have this potency regardless of the quantity of flowers that have to be used. Although we employ high-test (high in pyrethrins) flowers, MORE than 20 lbs. of flowers are sometimes required to produce one gallon of PYREFUME. To make certain of our guarantee, we rigidly assay PYREFUME for pyrethrins content AFTER extraction.

BUY a pyrethrum concentrate with standardized pyrethrins content — not merely an extract made from a certain quantity of flowers. Besides assay-guaranteed pyrethrins content PYREFUME is tested for above standard "knock down and kill" potency . . . its stability is unique . . . blends clearly . . . unusually non-staining . . . singularly free from unpleasant odor . . . low cost.

Let Us Quote You Now on PYREFUME For 1939 Delivery

S. B. PENICK & COMPANY

132 Nassau Street, New York, N. Y. 1228 W. Kinzie Street, Chicago, Ill.

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

IT'S NO SIMPLE MATTER

It may not sound like much, but to perfume an insecticide properly requires not only a thorough knowledge of aromatic oils and chemicals, but also a complete technical understanding of insecticide materials and manufacture.

Send us a gallon of your spray, unperfumed, and let us submit our suggestions.

VAN AMERINGEN-HAEBLER, INC

315 FOURTH AVENUE, NEW YORK CIT

PARADOW

(Pure Paradichlorbenzene)

SIZE, QUALITY, PURITY, STRENGTH—you get them all in PARADOW*.

Dow makes this product in six standard sizes—from fines to 1/4" crystals—and in a variety of special sizes to meet the requirements of every paradichlorbenzene user.

PARADOW'S completely uniform crystal sizes suit it perfectly for shaker top cans. Its superior crystalline whiteness makes it preferred by manufacturers of blocks and molded products.

For moth control and deodorant purposes, PARADOW means paradichlorbenzene of full strength and highest purity.

PARADOW can make your product better. Write today for samples and quotations.

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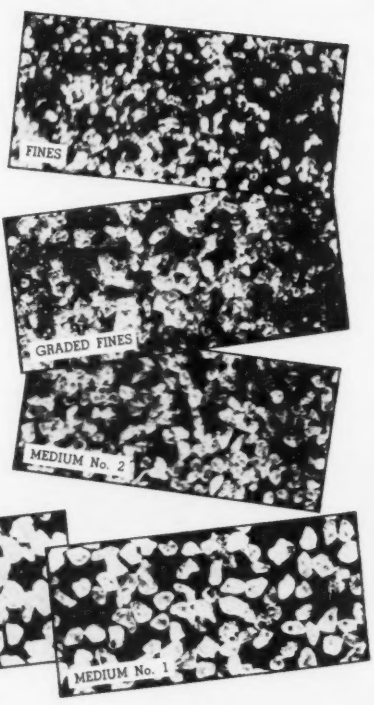

CONTAINER urge to buy and try gives merchandise its market opportunity. ★ "NATIONAL" designing and display treatments win attention and suggest product comparison. ★ "NATIONAL" Containers make a striking presentation and recall a VALUE that satisfies.

NATIONAL CAN CORPORATION

Produced to meet YOUR demands

Lethane 384 Special is the answer to trade demands for a toxic agent having the same insecticidal efficiency as Lethane 384, but which can be used in high concentration without presenting a problem of odor or irritation.

Lethane 384 Special used alone in a good deodorized base will provide an insecticide having a bland odor and one that will meet the most exacting specifications. Such a spray will remain stable and can be manufactured at a cost that will permit you to compete in the present low-priced market.

Use Lethane 384 Special as your sole toxic agent in your household, industrial and general exterminating sprays. Use Lethane 384 as your sole toxic and repelling agent in your cattle spray.

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The MM&R QUESTION BOX

1. QUESTION: *What Method Is Best for Perfuming Insecticides Using a Lethane 384 Base?*

ANSWER: First.—Neutralize Lethane Odor by Using DEODORANT L 37 M M & R; then—perfume. Within the last year, M M & R Laboratories have produced what many acclaim as the most important step forward to the ultimate end to the perfuming problem of insecticides, DEODORANT L 37 M M & R. Used in the proportion of one and one-half ounces to one gallon of Lethane 384, it serves as a positive neutralizer of the odor enabling the manufacturer to market an unperfumed spray or to add any desired odor more economically than ever before.

Tests have shown that DEODORANT L 37 M M & R is even effective when ordinary, cheap kerosene and Lethane 384 are used. If you wish to send in your unperfumed spray, M M & R laboratories will return samples deodorized with DEODORANT L 37 M M & R.

2. QUESTION: *Is Less Perfume Required After Using Deodorant L 37 M M & R?*

ANSWER: Yes, using DEODORANT L 37 M M & R effects perfuming economies. The reason is apparent. Through the use of DEODORANT L 37 M M & R, the odor of Lethane 384 and kerosene or any other diluent employed is completely and positively neutralized thus enabling effective perfuming with a smaller volume of perfume. The M M & R analytical laboratories, upon receipt of your unperfumed spray, will send you samples perfumed in accordance with the above principle with several different odors for your consideration.

3. QUESTION: *What Lilac Odor Provides Effective Coverage for Fly Sprays?*

ANSWER: Kerospray Bouquet B. L. S. This time tested product of the M M & R laboratories has, on dilution, an extremely pleasant odor of lilac character. Its intensity is tremendous (1 oz. to 5 gal. where so-called "odorless petroleum distillates are used"). Bouquet B. L. S. is perfectly soluble in kerosene of all types and petroleum distillates. A testing sample of this low-priced perfume oil is available on request.

MM&R PRODUCTS
in today's
QUESTION BOX

DEODORANT
L 37 M M & R

KEROSPRAY
BOUQUET B. L. S.

The greatly enlarged M M & R analytical laboratories invite you to enlist their aid in your perfuming problems.

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS — AROMATIC CHEMICALS, ETC... SINCE 1895

16 DESBROSSES ST. — **NEW YORK, N. Y.**

During the coming year when you think of

DISINFECTANTS

COAL TAR
PINE OIL
CRESOL

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INSECTICIDES

HOUSEHOLD
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TAR ACID OILS
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SANITARY SUPPLIES

Specify Baird's *Certified Products*

BAIRD & McGUIRE, Inc.

ST. LOUIS, MO. HOLBROOK, MASS.

Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

THE outlook for 1939 in the field of insecticides, disinfectants, and other sanitation products is on the whole distinctly bright. The chances are that the demand for these materials will be good, in keeping with an anticipated year of improving business. What the year holds for individual manufacturers is going to depend as always on what these manufacturers do and do not do. But it is our profound belief that opportunity knocks in 1939 for those who will answer the knock.

DURING 1939, three of the large oil companies, two on the Pacific Coast, will be in commercial production of cresylic acids, tar acids, and the like. These heretofore exclusively coal-tar materials will be produced as by-products of petroleum refining, and will be available in all types and grades, and in considerable tonnage. At least, these are in effect the promises which have come forth from the Coast. They were also in substance similar to the reports which came forth a year ago. But this time, they tell us, it's the real McCoy, and supplies will soon be available.

IN THE light of a recent court case involving personal injury by an insecticide material, there has arisen some controversy regarding the wisdom or lack of it in settling damage claims out of court via the medium of insurance companies. The point has been made, and well taken, that the policy of settling privately on some sort of a compromise basis is dangerous. The object of the insurance companies is of course to settle claims with the minimum of trouble and expense to themselves,—and to keep them out of court. But this has built up and continues to build up a precedent which invites a multiplicity of claims against all sorts of manufacturers by the unscrupulous,—and there is little doubt that the great bulk of these damage claims are filed by people with few scruples. Only by fighting these cases in court and beating the numerous far-fetched damage claims will this questionable business be suppressed, if not ended. The manner in which the insurance companies are handling these cases today is an invitation to the damage fakers, and is distinctly an obstacle in the way of cutting down or eliminating this growing evil. Compromising with a crook may be cheap today, but expensive tomorrow.

WHEN it comes to the purchase of household insecticides, some U. S. Government departments still appear to use a copy of "Alice in Wonderland" as their buying guide. In spite of the existence of official government standards for household sprays, these government divisions continue to specify products which are downright foolish from the practical angle. They ask for materials with very high kills by the Peet-Grady Method, in some cases calling for products three or four times as strong as the Official Test insecticide of the N.A.I.D.M. Knowing the general consuming requirements of these departments in the matter of insecticides, their "lone-wolf" specifications, sharply at variance with the grades of the National Bureau of Standards, are little short of ridiculous. How these government departments can continue to work at cross purposes with and completely ignore official standards is a puzzle.

Frame NAIDM Legislative Program

Names Dr. Henry C. Fuller as technical legal consultant . . . opposes use of protective legislation for revenue purposes . . . appoints new committees on public purchases and products liability insurance . . . J. L. Brenn re-elected association president . . . Roark paper cites inefficiency of home-made fly sprays . . . revamp draft of new model Insecticide Law.

CELEBRATING the twenty-fifth anniversary of the formation of their association, some two hundred and fifty members of the National Association of Insecticide and Disinfectant Manufacturers Association met at the Hotel Biltmore, New York, December 5 and 6. Developments which proceeded from the meeting included the decision to publish a booklet summarizing the activities of the association during the past twenty-five years, to be distributed among members and to be used by the membership committee in solicitation of new members. It was also recommended that extensive publicity be given to the report of Dr. R. C. Roark, U. S. Dept. of Agriculture, calling attention to the inefficiency and false economy of use of home-made fly sprays. Another subject which was the topic of considerable discussion at the meeting was the new model state insecticide act, drafted by the insecticide and fungicide committee of the Manufacturing Chemists Association. The

REVISED DRAFT OF MODEL INSECTICIDE AND FUNGICIDE LAW

AN ACT to regulate the sale and handling of insecticides and fungicides, to provide for their regulation, and for other purposes.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF.....

SECTION 1. *DEFINITIONS*:
Certain terms appearing in this Act shall be defined as follows:

(a) The term "person" shall include any firm, corporation, partnership, association, trust, joint stock company or unincorporated organization.

(b) The term "insecticide or fungicide" shall be construed to mean and include any and all substances, including disinfectants, intended for use in preventing, destroying, repelling or mitigating insects, rodents, fungi (and bacteria) or weeds or other pests, but to exclude drugs, poisons, chemicals or other preparations sold or intended for medicinal or toilet purposes or for use in the arts or sciences.

(c) The term "professed standard of quality" shall be construed to mean either a statement of the name and percentage of each active ingredient together with the total percentage of all inert ingredients contained in an insecticide or fungicide, or, in lieu thereof, a statement of the name and percentage of each inert ingredient together with the total percentage of all active ingredients contained in an insecticide or fungicide.

(d) The term "adulterated" shall apply to any insecticide or fungicide, the strength or purity of which falls below its professed standard of quality.

(e) The term "misbranded" shall apply to any insecticide or fungicide, the package or label of which shall bear any statement regarding such article or its ingredients which does not conform to the requirements of this Act.

(f) The term "registrant" shall apply to the person registering any insecticide or fungicide pursuant to the provisions of Section 3 of this Act.

SECTION 2. *SALE*:
It shall be unlawful for any person to deliver, distribute, sell, expose or offer for sale, either at wholesale or retail within this state:

(a) Any insecticide or fungicide unless the same shall be enclosed in the registrant's original unbroken container or package to which is affixed a label bearing: (1) the name and address of the manufacturer, registrant, or person for whom manufactured; (2) the name, brand, or trade-mark under which said article is sold; (3) its professed standard of quality, and (4) the net weight or measure of the contents.

(b) Any insecticide or fungicide which contains arsenic, any of its combinations, or any other substance or substances highly toxic to man, unless the same shall be enclosed in the original unbroken container of the manufacturer, registrant, or person for whom manufactured, to which is affixed a label bearing in addition to the foregoing: (5) the skull and crossbones; (6) the word "poison" in red on a background of distinctly contrasting color, and, (7) an antidote therefor.

(c) Any insecticide or fungicide, the contents of which do not conform to its professed standard of quality.

(d) Any insecticide or fungicide or any material represented to be an insecticide or fungicide which has not been registered pursuant to the provisions of Section 3 of this Act.

SECTION 3. *REGISTRATION*:
Every insecticide or fungicide manufactured, compounded, distributed, sold, offered or exposed for sale, either at wholesale or retail within this state shall be registered each year by its manufacturer, or some distributor thereof, with the.....of Agriculture of this state by filing with said .....a statement of (1) the name and address of the registrant; (2) the name, brand or trade-mark of the insecticide or fungicide registered, and, (3) the matter to appear upon its labels. Every registrant shall pay a fee of $2.00 accompanying the first registration statement in each fiscal year, provided, however, that the registration of any number of insecticides or fungicides by one registrant during each fiscal year shall not exceed a total fee of $25.00.

SECTION 4. *ENFORCEMENT*:
The provisions of this Act shall be enforced and administered by the .....of Agriculture of the State of....., who is hereby authorized and empowered (1) to register insecticides or fungicides manufactured, compounded, distributed, delivered, sold, offered or exposed for sale, either at wholesale or retail, within this state, (2) to collect labels and samples thereof for analysis, examination or test by existing agencies of this state; and if it shall appear upon such examination that any insecticide or fungicide is adulterated or misbranded within the meaning of this Act, the.....of Agriculture shall cause notice thereof to be given to its registrant. Any person so notified shall be given an opportunity to be heard at a designated time and place; and, if it appears that any of the provisions of this Act have been violated, the.....of Agriculture may cause the certification of such fact to the proper court with a copy of the results of analysis, examination or test as made by the analyst, examiner or expert under oath, which may be published under the directions of the .....of Agriculture; (3) to promulgate such rules and regulations in conformity with this Act as may be necessary for its administration. A copy of such rules or regulations shall be mailed to every person registering an insecticide or fungicide under Section 3 of this Act.

SECTION 5. *EXEMPTIONS*:
The provisions of this Act restricting distribution and delivery shall not apply to (1) common or private carriers; (2) warehousemen while engaged in lawfully transporting or offering insecticides or fungicides; (3) public officers in the performance of their official duties, or, (4) any employees of any of the foregoing while acting within the scope of his employment.

SECTION 6. *PENALTIES*:
Any person violating any provision of this Act shall, upon conviction, be fined not more than $25.00 for the first offense, nor more than $100.00 for any subsequent offense.

SECTION 7. *REPEAL*:
All Acts or parts of Acts which are inconsistent with the provisions of this Act are hereby repealed.

SECTION 8. *SEPARABILITY*:
If any provisions of this Act, or the application thereof to any person or circumstances, if held invalid, the remainder of the Act, and the application of such provisions to other persons or circumstances, shall not be affected thereby.

This Act shall become operative on and after.....

The association's 25th anniversary birthday cake is cut by S. H. Bell, J. B. Magnus, H. M. Clark, Alvin C. Cass and D. E. Clark. The ceremony was celebrated a little prematurely, by the way, as the association will not be a full 25 years old until later this year . . .

original draft of this proposed model law was subjected to considerable criticism on the meeting floor and numerous changes were recommended for submission to the Manufacturing Chemists Association. This body, at a meeting several days later attended by Dr. Alvin Cox and H. W. Hamilton, redrafted the model law in revised form.

At a meeting of the board of governors of the association held the evening of December 4, prior to the opening of the convention, particular attention was focussed on the legislative outlook for the coming year in view of the fact that the Federal Congress and 40 State Legislatures will be in session. The directors voted to engage the services of Dr. Henry C. Fuller as a technical consultant on legal problems. Robert Wilson will continue to advise the association as general legal consultant. In further emphasis of the importance of the legal problems which face the industry, the resolutions committee went on record as endorsing the views of the association's legislative committee in opposing the use of protective and welfare legislation for revenue purposes.

The nominating committee, consisting of Chas. Opitz, John Opitz, Inc., chairman, Campbell Baird, Baird & McGuire, Inc., Dr. G. F. Reddish, Lambert Pharmacal Co., Chas. McCormick, McCormick & Co., and H. W. Hamilton, White Tar Co. of N. J., presented a slate of officers for the coming year headed by the name of J. L. Brenn of Huntington Laboratories, present incumbent, for re-election as president of the association. William J. Zick of Stanco, Inc., was again named first vice-president. The most important change in the executive family was the election of John Curlett of McCormick & Co. as second vice-president, succeeding Wallace Thomas of Gulf Refining Co. John Powell of John Powell & Co. was re-elected treasurer, with Ira P. MacNair of MacNair-Dorland Co. succeeding John Wright as secretary.

Members of the board of governors include: for a three-year term, Gordon Baird, Baird & McGuire, H. W. Hamilton, White Tar Co. of N. J., Wallace Thomas, Gulf Refining Co.; for a two-year term, N. J. Gothard, Sinclair Refining Co., Dr. E. J. Thomssen, J. R. Watkins Co., and C. F. Weirich, C. B. Dolge Co.; for a one year term, Henry A. Nelson, Chemical Supply Co., S. S. Selig, Selig Co., and Russell H. Young, Davies-Young Soap Co.

One of the most important topics considered at the meeting was products liability insurance. C. E. Cooper of Clarence Cooper, Inc., New York, introduced the subject with an address in which he called attention to the general need for this type of insurance to cover claims for injuries made by persons not in the employ of the insured in connection with possession, consumption, handling or distribution of any product entering into trade. The most important reason for carrying such insurance, said Mr. Cooper, is to give freedom from thought or worry about the ability to pay claims or judgments which might result in bankruptcy.

Following the close of the convention, President J. L. Brenn appointed a committee consisting of R. O. Cowin of Standard Oil Co. of Ohio, chairman, Chas. Opitz of John Opitz, Inc., and S. S. Selig, The Selig Co., to study this whole subject. The committee will make a special investigation of the possibility and desirability of obtaining a collective products liability policy to cover all members of the association.

Another important address was one on "Home Made Fly Sprays" by Dr. R. C. Roark, in charge of insecticide investigation for the Bureau of Entomology and Plant Quarantine of the U. S. Dept. of Agriculture, Washington. Dr. Roark called attention to the fact that over

New Officers and Governors for 1939

J. L. BRENN
Huntington Laboratories, Inc.
President 1939

W. J. ZICK, 1st Vice-president
Stanco, Incorporated

JOHN CURLETT, 2nd Vice-president
McCormick & Co.

JOHN POWELL, Treasurer
John Powell & Co.

OFFICERS AND GOVERNORS

1938-1939

NATIONAL ASSOCIATION OF INSECTICIDE AND DISINFECTANT MFRS.

President	*1st Vice-President*
J. L. Brenn Huntington Laboratories, Inc.	W. J. Zick Stanco, Inc.
2nd Vice-President	*Treasurer*
John Curlett McCormick & Co.	John Powell John Powell & Co.

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Gordon N. Baird Baird & McGuire, Inc.	N. J. Gothard Sinclair Refining Co.	H. W. Hamilton White Tar Co.
H. A. Nelson Chemical Supply Co.	S. S. Selig The Selig Co.	Wallace Thomas Gulf Refining Co.
Dr. E. G. Thomssen J. R. Watkins Co.	Clarence Weirich C. B. Dolge Co.	R. H. Young Davies-Young Soap Co.

National Assn. of Insecticide and Disinfectant Mfrs.

R. H. YOUNG
Davies-Young Soap Co.

N. J. GOTHARD
Sinclair Refining Co.

H. W. HAMILTON
White Tar Co.

WALLACE THOMAS
Gulf Refining Co.

S. S. SELIG
The Selig Company

H. A. NELSON
Chemical Supply Co.

GORDON N. BAIRD
Baird & McGuire, Inc.

DR. E. G. THOMSSEN
J. R. Watkins Co.

CLARENCE WEIRICH
C. B. Dolge Co.

Hoyer of Powell mans the registration desk . . .

the past few years various publications have emanated from state experimental stations describing methods of preparing home-made fly and cattle sprays. The use of such preparations he described as uneconomical on the basis of tests made during recent months at the bureau.

In its investigation the bureau made up sample sprays in accordance with directions given by various stations, many of which call for use of one pound of flowers per gallon of kerosene. These sprays were uniformly deficient in strength, he found, due to the fact that approximately 6 per cent of the pyrethrins are not extracted by the home method employed, and upwards of 27 per cent of the resulting extract is retained by the powder. He said that in order to obtain a spray of the normal commercial strength (containing at least 100 mg. of total pyrethrins per 100 cc. of solution) a minimum of 1⅜ lbs. of pyrethrum powder and 1⅜ gallons of kerosene would be required under optimum conditions to give one gallon of extract. Where pyrethrin content of flowers might be low, as high as 3½ lbs. of flowers and 1¾ gallons of kerosene might be required.

In the subsequent discussion John Powell of John Powell & Co. called attention to the fact that some directions call for use of *whole* flowers, in which case the loss would be even higher. A motion was made by Dr. Alfred Weed that copies of the Roark report be reprinted by the secretary's office and distributed widespread throughout the industry, at the discretion of the publicity committee. Dr. Baedertscher of McCormick & Co. and Dr. Robert C. White of Robert C. White Co. also spoke in favor of giving added publicity to the report. The added recommendation was made by Dr. Thomssen of J. R. Watkins Co. that copies of the report might be sent to drug and farm papers.

ON the technical side, the insecticide section gave considerable attention to the standardization of methods for the testing of rotenone. J. J. T. Graham of the U. S. Department of Agriculture read a paper "Determination of Rotenone and Pyrethrins in Insecticides" in which he called particular attention to a new method of rotenone analysis developed by Howard Jones, Bureau of Entomology and Plant Quarantine, U. S. Dept. of Agriculture, Washington. In this new titration method, published in full in the December issue of the analytical edition of *Industrial & Engineering Chemistry*, the rotenone is extracted and crystallized as in the previous Jones and Graham method. Then without drying or weighing, the crystalline residue is converted into dichloracetic acid solvate, in which the acetic acid is then titrated and the percentage of rotenone calculated.

At a special meeting held the afternoon of December 5, at which Dr. Alfred Weed presided, the various methods for analysis of rotenone were further discussed. A representative group of laboratories agreed to run a series of comparative tests on one-pound rotenone samples by the Seil method, the Jones and Graham crystallization method and the Jones and Graham titration method. The following firms have agreed to collaborate in this work: S. B. Penick & Co., Derris, Inc., Givaudan-Delawanna, Whitemire Research Corp., Midway Chemical Co., Hammond Paint & Chemical Co., John Powell & Co., Inc., Seil, Putt & Rusby, Chipman Chemical Co., G. F. L. Mills, and possibly the Sherwin-Williams Co. When assembled, the data will be forwarded to Mr. Graham for further study.

Among the technical group in the disinfectant section, discussion centered around the report of Dr. George F. Reddish of Lambert Pharmacal Co. on a new "Method for Bacteriologic Testing of Chemical Solutions for the 'Cold Sterilization' of Surgical Instruments." Dr. Reddish called particular attention to the fact that there are normally but a few spores on surgical instruments, but since a large margin of safety is desirable in tests of this type he selected 100 spores as his standard test number. The spores of *B. anthracis* were the type selected for the test. In applying the test to commercial preparations, none of them passed, which led to the criticism by Dr. Emil Klarmann of Lehn & Fink Products Corp. that the test was too severe. He objected to the choice of anthrax spores as the test organism.

Cocktail Party Donors

For their contributions to the cocktail party which was held in connection with the 25th annual N.A.I.D.M. banquet, a resolution of appreciation was adopted by the Association to the following associate members to whose efforts the success of the party was due: American Can Co.; Aromatic Products, Inc.; Henry Barroll & Co.; Breuer Electric Manufacturing Co.; Continental Can Co.; Federal Varnish Co.; Fritzsche Brothers, Inc.; Givaudan-Delawanna, Inc.; H. D. Hudson Manufacturing Co.; Atlantic Refining Co.; MacNair-Dorland Co.; Magnus, Mabee & Reynard, Inc.; National Can Co.; Owens-Illinois Can Co.; John Powell & Co.; Standard Containers, Inc.; Strahl & Pitsch; Upressit Products Corp.; van Ameringen-Haebler, Inc.; T. F. Washburn Co.; and Wilson & Bennett Manufacturing Co.

"Van" demonstrates the famous "All American" card mastery to the card wizard . . .

giving as his opinion that no disinfectant will kill a really resistant anthrax spore. Anthrax spores, he said, do not exhibit a standard resistance, and so represent a poor choice as a test organism.

Dr. Reddish pointed out in reply that boiling water disinfects surgical instruments bearing anthrax spores in ten minutes, and that a product offered for this purpose and described as a sterilizer should do at least as well. He said that the adoption of an admittedly severe test might stimulate improvement of the industry's products so that they would eventually be able to pass.

In another paper entitled "Methods of Testing" Dr. Klarmann continued the discussion of testing procedure. In commenting on the Reddish method* for the testing of fungicides he expressed an opinion that the suggested procedure does not allow good contact between the fungus and the fungicide. Dr. Reddish defended his method as a thoroughly practical test, pointing out that products which show up well in the test also bring good results in actual fungicidal applications. In the treatment of athlete's foot, he claimed, it is necessary to have a fungicidal agent which penetrates, as it cannot be effective unless it reaches the source of the trouble which may be fairly deep in the skin.

ON the first day of the session two important papers reviewed recent developments in the field of wax testing. Frank S. Cooper, Jr., superintendent of the International Building, Rockefeller Center, New York, talked on "Office Building Sanitation," with particular attention being given to a method developed at Rockefeller Center for gauging the degree of slipperiness of a waxed floor.

Melvin Fuld of Fuld Bros., reporting for the sanitary specialties committee, outlined some of the important work that this committee has done over the past year in devising methods for floor wax testing. He called attention to the exaggerated claims that are made for many waxes on four points,—slip-proof qualities, luster, water resistance and wearing ability. To give some basis on which such claims can be checked, his committee set up a laboratory test for slipperiness along very much the same lines requested by Mr. Cooper. The method is fully described elsewhere in this issue.

H. W. Hamilton of White Tar Co. of N. J., reporting for the disinfectant marketing committee, indicated that some of the low quotations current in this market can be met only by firms that eliminate the expense of testing from their cost sheets and trust the same formula to carry them through without the expense of adequate technical supervision. He called on other factors in this trade to report on their own views and among those who responded were Messrs. Nelson, Thomssen, Eddy, Fuld, Hoyt and Pollnow. J. L. Brenn also spoke, calling attention to the desirability of more publicity to build up public consciousness of the actual need for disinfectants. He referred to the far too common misbelief that plenty of soap and elbow grease are a suitable substitute for disinfectants.

Reporting for the insecticide marketing committee, H. A. Thomas of Shell Petroleum Corp. emphasized that the government should follow the standards of the association in requesting bids on insecticides. He condemned the practice of asking for bids on higher-than-standard products, pointing out that on a cost basis they are relatively inefficient and uneconomical.

This same tendency to disregard the association's testing methods and standards was referred to by Gordon Baird of Baird & McGuire, Inc., reporting for the disinfectant specifications committee. He called attention to the fact that the association's new specifications have been completely ignored in some federal

H. W. Hamilton and C. P. McCormick cast an eye on the terpsichorean talent . . .

* Presented by Dr. Reddish before the Scientific Section of the Proprietary Association, May, 1938.

bids. The Navy Department, he said, is still buying disinfectants on the basis of the Hygienic Laboratory testing method. He urged members of the association to take steps to familiarize government departments with the official specifications of the industry and to promote their more general use.

As the first step in this direction the board of governors voted in favor of the appointment of a committee on public purchases. The personnel of this committee, just announced by president Brenn, is as follows: Gordon M. Baird, Baird & McGuire, Inc., chairman; Charles Van Dyne, American Disinfecting Co., and F. O. Huckins, Sinclair Refining Co.

Dr. Ronald G. Law, chief sanitary officer of the Canadian National Railways, discussed the use of insecticides and disinfectants in the fur bearing animal industry. He refered particularly to the need of controlling fleas and ear mites in the raising of foxes.

Q. Forrest Walker of R. H. Macy & Co. talked on "Some Practical Aspects of Fair Trade Marketing." He described fixed resale prices as unfair to the consumer who is in effect forced to subsidize inefficient high-cost distributors.

Dr. F. L. Campbell, associate professor of entomology at Ohio State University gave a progress report on work going on at the University under the N.A.I.D.M. fellowship. The report described a drop test method developed for use on bed bugs and an improved technique followed in rearing the test insects.

Shell's Thomas reports for the Insecticide Marketing Committee . . .

Of the insecticidal materials tested, only pyrethrum and "Lethane 384" produced a kill significantly greater than that resulting from odorless insecticide base alone.

The convention closed with a cocktail party and banquet the evening of December 6. The affair was held in the main ball room of the Hotel Biltmore and following a beefsteak dinner a floor show was put on. In the absence of L. J. LaCava, chairman of the entertainment committee, J. B. Magnus, another member of the committee, acted as master of ceremonies.

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Registration List

Annual Meeting, National Association Insecticide & Disinfectant Manufacturers, New York, December 5 and 6, 1938

Firm	Representative
Allaire Woodward & Co.	R. P. Neptun
American Can Co.	T. E. Alwyn L. A. Trevisan
Applied Research Laboratories	Dr. Thomas Durfee
Aromatic Products Inc.	C. L. Weston
Atlantic Refining Co.	H. R. Balentine J. M. Hoerner E. W. McClure
Averma	E. D. Herzberg Walter Krakauer
Baird & McGuire Inc.	C. C. Baird Gordon M. Baird James A. Varley
Baldwin Laboratories Inc.	H. W. Baldwin
Barroll, Henry & Co.	J. N. Davies
Bell, S. H.	S. H. Bell
Berens, William Co.	Williams Berens
Black Flag Co.	Talbot J. Albert E. R. Omohundro F. X. Tiddy James J. Reilley
Brazilian Mineral & Testing Co.	Chas. Welford
Breuer Electric Mfg. Co.	Adam A. Breuer
Buchanan & Co.	Rudolph Montgelas
Buckeye Chemical Specialty Co.	Douglas Day Harry M. Epstein
California Spray Cheml. Corp.	R. O. Haasarud
Canadian Germicide Co. Ltd.	Frank S. Sheppard
Chemical Supply Co.	Henry A. Nelson
Cole, Geo. W. & Co.	Geo. W. Cole
Collins, D. A., Mfg. Co.	Leo Lowenstein
Continental Can Co.	L. G. Cannella D. W. Hawkins O. G. Jakob L. J. LaCava Brewster Righter
Davies-Young Soap Co.	R. H. Young

Treasurer Powell indulges in a little mental book balancing . . .

Derris Inc.	E. Camson R. F. Joyce O. M. Poole R. Witherspoon
Dr. Hess & Clark Inc.	D. E. Clark H. M. Clark
Dodge & Olcott Co.	Ralph W. Bush C. A. Myers
Dolge, C. B. Co.	Clarence L. Weirich
Dow Chemical Co.	W. M. Allen B. L. Fayerweather Fred Fletcher A. M. Partansky
duPont, E. I., DeNemours & Co.	S. J. Hill A. S. Slack Alfred Moeller Geo. J. Tombak F. W. Wolff
Federal Varnish Co.	M. J. Flanagan John H. Lawson
Felton Chemical Co.	Hans F. Dresel
Frederick Disinfectant Co.	Fred Hoyt
Fritzsche Bros.	C. F. Booth Geo. L. Ringel B. F. Zimmer
Fuld Bros.	Melvin Fuld
Fumol Corp.	M. J. Kammerling
Furst-McNess Co.	C. W. Furst
General Laboratories	Wm. A. Hadfield Stella Costigan
Givaudan-Delawanna Inc.	G. H. Blake Robt. A. Engel A. T. Fiore Arthur Fox William Gump Urho Korpi Eric Kunz L. L. Lowden Sr. R. M. Stevenson
Gulf Oil Corp.	Wallace Thomas
Gulf Research & Develpmt. Corp.	A. C. Miller W. A. Simanton
Hammond Paint & Chemical Co.	Nicholas Opolonick
Hercules Powder Co.	G. F. Hogg J. B. Kennedy L. P. Killilea B. H. Little Friar Thompson
Hooker Electro-Chemical Co.	Eugene McCauliff
Hudson, H. D., Mfg. Co.	M. L. Harrison M. J. Hehl
Huntington Laboratories	J. L. Brenn

(*Turn to Page* 117)

The Pyrethrin Content of HOME-MADE FLY SPRAYS

By S. I. Gertler and H. L. Haller*

Div. Insecticide Investigations, U.S.D.A.

DURING the past few years publications from State Agricultural Experimental Stations[1] and the Federal Government laboratories[2] have appeared in which methods of preparing pyrethrum extracts for general household use and for cattle sprays are described. One of the objects in publishing the methods has been to provide the farmer and others with an economical way of preparing insecticidal sprays.

The economy of this practice has been questioned not only by manufacturers of pyrethrum sprays but also by entomologists. Chief among the criticisms are that the procedures recommended do not completely remove the active principles of the flowers and therefore the preparation of these home-made sprays is a wasteful process, and that the sprays so prepared are in the end more expensive than an equivalent quantity of insecticide purchased from a reputable manufacturer.

In general the directions recommend that the flowers and the solvent, usually kerosene, be mixed in a definite proportion and the mixture be allowed to stand for a definite time with occasional stirring. The mixture is allowed to settle and the clear solution, after being carefully decanted, is ready for use.

Soon after the active principles of pyrethrum flowers, designated pyrethrin I and pyrethrin II, had been isolated and characterized by Staudinger and Ruzicka, methods for their determination appeared. While the values obtained by the chemical methods do not agree exactly with those obtained by biological methods of evaluation, nevertheless the chemical methods are considered useful for determining the insecticidal value of pyrethrum, and pyrethrum flowers are bought and sold on the basis of their total pyrethrin content.

In order to determine just how much of the pyrethrins is removed by a single extraction with kerosene, it seemed of interest to prepare extracts according to a typical set of directions published for home use and compare their pyrethrin content with extracts obtained by exhaustive extraction of the flowers. It was also of interest to determine the amount of kerosene solution that is recovered by decantation from the exhausted pyrethrum powder.

In the experiments described below, seven different samples of pyrethrum powder were used. They were obtained from different sources and were of various ages so as to represent materials that might be obtained on the market. One sample of whole Japanese flowers was included, but when an attempt was made to determine their pyrethrin content inconsistent results were obtained owing to the difficulty of getting small homogeneous samples of the flowers for analysis. This sample (No. 1) was therefore ground in a Wiley mill and mixed. Of the other samples one was obtained from a local insecticide company and another from a drug store. The remainder were from large manufacturers.

Experimental Part

The samples were completely extracted with hot low-boiling petroleum ether and the pyrethrins determined after removal of the solvent. The pyrethrin I content was determined by Wilcoxon's mercury reduction method as modified by Holaday[3]. The pyrethrin II content was determined by a modification of Seil's acid titration method[4].

The kerosene extracts were prepared in the following manner: Pyrethrum powder was mixed with water-white commercial kerosene in the proportion of one pound of powder to one gallon of kerosene and the mixture allowed to stand for 48 hours with occasional stirring. The solution was decanted as carefully as possible and the volume measured. The remaining sludge was then filtered on a suction filter and the filtrate added to the solution obtained by decantation. The combined solutions were filtered through a filter paper, and a 100 cc. aliquot of this solution was used for the determination of pyrethrins.

In Table I are given the quantities of solution recovered when 60 grams of a sample was mixed with 500 cc. of kerosene (a ratio of one pound to one gallon).

The results show that approximately 73 per cent of the extract is recovered by decantation or, conversely, that there is a loss of about one-fourth of the total solution. When the remaining sludge is filtered by suction, about 89 per cent of the solution is recovered. However, the average farmer attempting to make his own fly spray does not have the equipment to enable him to

* Paper presented by Dr. R. C. Roark, In charge, Division of Insecticide Investigations, Bur. of Ent. & Plant Quarantine, before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 1938.

TABLE I.—Recovery of solution when 60 grams of pyrethrum were mixed with 500 cc. of kerosene and allowed to stand for 48 hours with occasional stirring.

Sample No.	Solution obtained by decantation	Recovery	Solution obtained from sludge by suction filtration	Total solution recovered	Recovery
	Cc.	Per cent	Cc.	Cc.	Per cent
1*	345	69	102	447	89
2	385	77	80	465	93
3	400	80	43	443	89
4	335	67	86	421	84
5	350	70	100	450	90
6	360	72	74	434	87
7	385	77	70	455	91
Average	366	73	79	445	89

* Whole flowers ground in Wiley mill.

subject the sludge to suction on a filter.

A single experiment was also made in which pyrethrum powder and kerosene were mixed in the ratio of two pounds of pyrethrum to one gallon of kerosene. In this case 57 per cent of the solution was recovered by decantation and a total of 86 per cent when the remaining sludge was subjected to suction filtration.

In Table II are given the results of the chemical analysis of both the powders and the kerosene extracts. Each figure represents the average of two separate determinations.

A blank determination was made on the kerosene and all the reagents. A zero blank was obtained for pyrethrin I, and a blank of 0.02 per cent was obtained for pyrethrin II. This value was subtracted from all the pyrethrin II figures. In the analyses of both the powder and the extracts the percentages are expressed on the basis of dry powder so as to make them comparable.

In the last column are given the concentrations of total pyrethrins in milligrams per 100 cc. of kerosene extract.

The results show that a single kerosene extraction of powdered pyrethrum flowers removes about 94 per cent of the active insecticidal principles. Two extracts contain about 50 mg. pyrethrins per 100 cc. solution; four contain 65-95 mg. pyrethrins per 100 cc. solution and in one the concentration is 125 mg. of pyrethrins per 100 cc. solution.

A good commercial pyrethrum spray is considered to be one containing at least 100 mg. of total pyrethrins per 100 cc. of solution. It will be noted that only one sample (No. 4) gave a solution that meets these requirements. As the samples used are representative of the type of material which is available to the consumer today the findings of this investigation indicate that pyrethrum sprays having less pyrethrins than occur in good commercial grades of spray, are obtained when 1 pound of powdered pyrethrum flowers is extracted with kerosene according to direction issued by certain agricultural experiment stations. The directions which recommend one-half to three-fourths pound of flowers per gallon of kerosene would be expected to yield solutions having a pyrethrin content proportionately lower than those obtained in these experiments.

Analysis of the kerosene solution thus obtained shows that approximately 94 per cent of the pyrethrins originally present in the pyrethrum powder are dissolved in the kerosene employed.

In order to obtain 1 gallon of kerosene extract of pyrethrum containing 100 mg. of total pyrethrins per 100 cc. according to the procedure described in this paper, it is necessary to employ not less than 1.00/.73, or about 1⅜ pounds of pyrethrum powder analyzing 0.9 per cent total pyrethrins and 1⅜ gallons of kerosene. Inasmuch as six out of seven samples of pyrethrum powder purchased at random on the market contain less than 0.9 per cent total pyrethrins, it will be necessary in most cases to use more than this quality of pyrethrum powder and of kerosene. In the case of a powder containing 0.45 per cent of total pyrethrins, it is necessary to use 2.00/.57, or about 3½ pounds of pyrethrum powder and 1¾ gallons of kerosene, in order to obtain 1 gallon of kerosene extract containing 100 mg. total pyrethrins per 100 cc.

When pyrethrum powder is mixed with kerosene in the ratio of 1 pound to 1 gallon and allowed to macerate for 48 hours approximately 73 per cent of the extract is recovered by decantation or conversely there is a loss of about 27 per cent in the volume of the solution.

TABLE II.—Chemical analyses of pyrethrum powders and the kerosene extracts.

Sample No.	Pyrethrum powder: Pyrethrin I Per cent	Pyrethrum powder: Pyrethrin II Per cent	Pyrethrum powder: Total Per cent	Kerosene extract: Pyrethrin I Percent	Kerosene extract: Pyrethrin II Percent	Kerosene extract: Total Per cent	Loss Per cent	Total Pyrethrins Mg. per 100 cc.
1*	0.21	0.26	0.47	0.18	0.24	0.42	11	49.9
2	0.31	0.44	0.75	0.28	0.41	0.69	8	82.7
3	0.34	0.50	0.84	0.33	0.47	0.80	5	95.9
4	0.50	0.58	1.08	0.46	0.57	1.03	5	123.4
5	0.26	0.34	0.60	0.25	0.31	0.56	7	67.1
6	0.38	0.46	0.84	0.35	0.42	0.77	8	92.2
7	0.17	0.23	0.40	0.17	0.23	0.40	0	47.9
						average loss —	6	

* Whole flowers ground in Wiley mill.

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[1]Turner, N., and Walden, B. H. Some common Household Insects and the Control. Conn. Agr. Expt. Sta. Bull. 400:853. 1937.

[2]Bishop, F. C. Fly Sprays. U. S. Dept. Agr. Bur. Ent. and Plant Quarantine Bull. E-305. 1937.

[3]Holaday, D. A. Determination of Pyrethrin I in Commercial Insecticides containing Pyrethrum or Pyrethrum Extract. *Ind. Eng. Chem.*, Analyt. Ed., 10:5. 1938.

[4]Seil, H. A., *Soap* 10 (No. 5):89. 1934.

Floor Wax Testing

A start in the movement to set up specifications and standard tests for sanitary chemical specialties

By Melvin Fuld*
Fuld Brothers

THE buyer is beset with problems that are becoming increasingly troublesome as sanitary products themselves develop from specialties into utility products. We refer particularly to the lack of accurate means to determine the significant factors of the various products. For this reason, we feel that in the interest of progress, we should endeavor to set-up reliable and uniform methods of testing certain of the leading sanitary products.

One of the most active specialties in the sanitary chemicals at this particular time is self polishing waxes, in the claims for which we find widespread confusion. From the examination of the advertising literature of numerous companies, we found that in nearly all cases the following claims were made,—*First*—that the product is slip-proof,—*Second*—that the product is waterproof,—*Third*—that the product has a superior wearing quality,—*Fourth*—that it has high initial lustre. There are other claims, but these four, in most cases, apply to every product offered to the public. The chief difficulty in the continuance of these uniform claims are the following.—*First*—Some of the companies attempt to substantiate their claims with more or less scientific method, — *Second* — other companies attempt the same with methods that cannot be duplicated, and—*Third*—most companies make no effort at all to substantiate their broad statements.

Due to these existing conditions our Committee feels very definitely that if and when we can set up the necessary test methods and standard definitions, that we will have served the best interests of both the buyer and the manufacturer of the products. To that end, the Committee has the following to report:—

A study was undertaken to determine the slip-proofness of waxes, and after extensive tests, it was found necessary to devise a type of apparatus which would measure accurately the slipperiness of a wax coating. After considerable experimental work, a simple machine was constructed on the oblique thrust principle so that its mechanical advantage is the ratio of the resistance overcome to the force applied. This is the coefficient of friction because the definition of the coefficient between two surfaces is the ratio of the force required to move one over the other to the total force pressing the two together. If F is the force required to move one surface over another and F^1 is the force pressing the surfaces together the coefficient of friction is expressed

$$K = \frac{F}{F^1}$$

In the construction of the machine "The coefficient of friction is derived from the scale reading and the dimension of the apparatus. The vertical force, F^1 and the horizontal force F acting on the shoe in any position are equal, respectively, to the vertical and horizontal components of the thrust transmitted to the shoe. In this case the coefficient of friction, or the ratio F F^1, is equal to the tangent of the angle the thrust arm makes with the vertical at the point of slipping. The tangent of the angle, that is, the coefficient of friction, may be obtained from a table of natural sines and tangents, or a table giving the coefficient of friction corresponding to any scale reading may be readily constructed." It might be interesting to note that after this machine was built and most of the work was done it was discovered that Rankines in 1858 reported in the Smithsonian Tables various coefficients of frictions as follows:

From Rankines Compilation 1858 —Smithsonian Tables

Surfaces	*Coef. of Friction*
Metal on Oak (Dry)	0.50 to 0.60
Metal on Oak (Wet)	0.24 to 0.26
Metal on Oak (Soapy)	0.20
Metal on Elm (Dry)	0.20 to 0.25
Leather on Metal (Dry)	0.56
Leather on Metal (Wet)	0.36
Leather on Metal (Greasy)	0.23
Leather on Metal (Oily)	0.15
Metal on Metal (Dry)	0.15 to 0.20
Metal on Metal (Wet)	0.30

For comparison purposes, we list below the coefficient of friction for linoleum:

Surfaces	*Coef. Friction*
Metal on New Linoleum	
Red Mottled	0.2027
Brown Battleship	0.2147
Metal on Worn Linoleum	
Red Mottled	0.2147
Brown Battleship	0.2027
Brown Battleship	0.2095

It was found from experimental work that the coefficient of friction of various waxes ran from 0.1623 to as high as 0.3000 so that the coefficient of friction with different types of commercial waxes found on the market covers a wide range. One of

* Read at 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 6, 1938. Report of chairman of Sanitary Specialties Committee.

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the outstanding things that came to light was that some waxes which are being highly advertised for their non-slippery character actually are more slippery than some of the commercial waxes which were picked up on the market and tested by this method (thrust principle).

One of the methods used for studying the coefficient of friction was an inclined plane 3⅞" wide by 8⅛" long having an angle of 14° 18′ built along the lines that have been described in the literature as well as in advertising matter of several manufacturers. This method was found not suitable for testing purposes but some of the results are worth examining. In studying this method, linoleum panels were waxed and allowed to dry. They were placed on the inclined plane, and a weighted object was placed on the top of the panel and the time of travel measured; because of errors and difficulties encountered, linoleum was abandoned and waxed cardboard panels were used. It was found that some waxes with this inclined plane on cardboard were less slippery than most waxes. It was found that these films of wax remained tacky and it seemed to be more tacky on cardboard than on linoleum, which accounts for the fact that on the other waxes, while actually on the floor, the coefficient of friction was less. In a series of tests, the coefficient of friction of these advertised slip-proof waxes were found to be 0.1623-0.2688 while waxes for the greater part were found to be less slippery and actually measured from 0.2440 to 0.2885. Other waxes which were tested from commercial batches purchased on the market were 0.1568 to 0.2885. A summary of a few tests are as follows:

Incline Plane and Weight

Wax A		
Drying Time	*slips*	*stops*
2 hours	1	2
4 hours	1	2
48 hours		3
72 hours		3
Wax B		
Drying Time	*slips*	*stops*
2 hours	2	1
4 hours	3	
48 hours	2	1
72 hours	3	

These spreads were made on standard testing cardboard and different panels used for each series of tests.

Coefficient of Friction by Thrust Machine Metal on Cardboard Waxed

Wax A	
Drying Time	*Coef. Friction*
2 hours	0.2777
4 hours	0.1874
48 hours	0.1556
72 hours	0.1589
Wax B	
Drying Time	*Coef. Friction*
2 hours	0.2777
4 hours	0.1976
48 hours	0.1673
72 hours	0.1639

From these tests one of the other outstanding factors discovered was that a wax, as it became drier, became a little more slippery. While not sufficient to change the coefficient of friction to a large degree, observation proved that the maximum slipperiness of a wax was attained in about three days. In other words, the coefficient of friction of the material immediately after drying was greater than it was two or three days later. This does not, of course, substantiate most advertising claims for waxes on the market but a number of waxes, not advertised as slip-proof as mentioned above, were found to be a great deal less slippery than some which have been highly advertised as being slip-proof and actually are not.

From such conditions, it seems that the industry in wax business may be suffering through the public's loss of confidence due to confusing claims which cannot be substantiated and our Committee feels that a series of specifications and tests should be set up by the Committee under the merchandising and production section defining exactly what we mean by the more significant characteristics of such products.

ONE of the other abuses which is quite obvious in the wax industry is the question of wear. There is no actual definition of the wear of a wax and it is rather difficult to interpret the results of wear between one wax and another. There are two methods which seem to our Committee to be more outstanding from indication of wear than others. First is the falling abrasive test on an abrasion machine. "The Gardner Abrasion Test Apparatus is described in "Physical and Chemical Examination of Paints, Varnishes, Lacquers and Colors" by Henry A. Gardner, seventh edition, page 317. It consists of a reservoir to which is attached a meter length of ½ inch brass tubing. Abrasive falls through the tube onto a test panel underneath. The amount of abrasive required to wear through the coating of the panel is a measure of the resistance of the coating. Aloxite Brand aluminum oxide POL 50 TP, made by the Carborundum Company, Niagara Falls, New York, used as the abrasive."

In running these tests it was found that by using glass plates, results could be duplicated within a small percentage of the error by weighing the amount of abrasive which would remove the wax film from the glass plate. However, when interpreting the results between one wax and another, it was found that there was some discrepancy because of irregularities of the film. To surmount this difficulty, a method was devised to apply a uniform film to the plate. We took waterproof adhesive tape and pasted it around the four sides of the glass. The wax under test was dried for solids, and a definite quantity of liquid wax depending on the concentration dropped on the plate thus producing a wax film that had evenly distributed over its area a definite amount of wax solids. In comparing this wax with another wax an equivalent quantity was flowed on the same area so that in that particular manner comparative results were obtained on the falling abrasive test. However, one discrepancy was found in the method and that was, if the film was soft or tacky the abrasive would have a tendency to cake or burl which meant that a larger amount of abrasive was required to remove the wax film. Thus it became necessary to develop a second method to study the results in correlation with the falling abrasive method.

A reciprocating motion machine was built with a small motor and a reciprocating arm. The arm is actuated by a shaft and moves a metal shoe upon which weights are placed. On the bottom of this metal shoe a

piece of mohair is secured. This mohair is dipped in 325 mesh silica abrasive and the number of strokes counted until the wax film starts to fail. The results on linoleum and glass plates were consistent and it was felt that a combination between the falling abrasive method and the reciprocating motion machine would give a very good interpretation of the relative wear resistance of various waxes. It was found also, with the use of the reciprocating motion machine, that to compare one wax with another that uniformity of the test film is essential.

One fault with the reciprocating motion machine, which we are attempting to overcome at this particular time, is as follows: It is impossible to tell accurately except with considerable experience, (since the result depends on visual observation) when the wax film fails. This naturally leaves room for error as what one observer may consider the end point, another would not. This may be attributed in part to the fact that the abrasive hinders convenient observation and work is now going forward in an attempt to develop a type of reciprocating motion machine whereby the results would be taken automatically, such as, for example by an electric contact through a small wire brush placed on the bottom of the shoe (similar to brushes which are used for the cleaning of suede shoes) and the use of steel plates to complete the circuit. Wax is a non-conductor and when the wax film fails and the metal brush touches the metal plate a relay is actuated which shuts off the circuit and stops the reciprocating motion machine. In this manner the human element does not enter into the result and the experimental error of that nature is eliminated. Sufficient work has not yet been done to form definite conclusions as to whether the merits of this method would make it acceptable or not but our Committee does feel that it is the beginning of a series of tests which should prove quite interesting and valuable as a standard method whereby waxes could be compared one against another in conjunction with the falling abrasive machine to indicate wear.

One principal advantage of the reciprocating motion machine is that those waxes which are soft and pliable and require a large amount of abrasive to remove them (falling abrasive tests) because their films were soft and tacky work just the reverse on the reciprocating machine. Because of the fact of their gummy and tacky nature, the number of strokes are materially decreased when the film surface is tacky. Sufficient work has not been done at this particular time to give any conclusive results but the committee feels that work should be continued on this particular method as possibly a standard method for determining wear can be achieved by studying the combined results of these two methods.

ONE of the most difficult problems is that of the evaluation of water resistance. Three methods have been used by the Committee for the study of this particular problem.

Water Resistance on Linoleum: "Pieces of plain unfinished linoleum (2 x 6 inches) were coated with the self polishing wax, a soft clean cloth being used to apply it. These were permitted to dry for two and twenty-four hours respectively, then immersed in distilled water for two hours. Another series was double-coated with the wax, the second coat being applied after the first coat had dried. These were also immersed in distilled water after the second coat had been permitted to dry for two hours and twenty-four hours respectively."

Water Resistance—Can Cover Method: "the procedure used for determining this property was to place 5 cc. of the liquid wax in a circular friction can cover measuring about two inches in diameter. The wax film was allowed to dry for forty-eight hours and then observed for cracking, crazing, and shrinkage. The cover and wax were accurately weighed and then immersed in 500 cc. of water at room temperature. They were allowed to remain immersed for 24 hours, then removed and allowed to dry for 48 hours. The cover and wax film were reweighed and the loss calculated. Observations were made as to disintegration of the film, lifting, whitening, etc. Other specimens which were not immersed in water were tested for brittleness or toughness of the film by bending the cover and scratching the film with a spatula."

Cold Water Solubility: Paragraph F-7 of the Federal Specifications P-W-151 describes the method of conducting this test.

"Dilute a portion of the original water-emulsion wax with water so that the resulting solution will contain 7.5 g of solids per 100 ml. Pipette 2 ml. of this solution on to four 9 cm filter papers in such a way that approximately the same surface is covered with solution. Permit the papers to dry at room temperature for 48 hours. After drying, place papers in a covered beaker in 100 ml of distilled water maintained at 20° to 25° C. Allow to stand at this temperature for 24 hours. Decant solution and evaporate decanted liquid. Dry residue at 105° to 110° C. to constant weight. Calculate percentage of water soluble matter on the basis of 0.15 g of solids."

Our Committee does not feel that any of these three methods are very satisfactory and while they do give some indication of water resistance it must first be determined exactly how water resistance shall be interpreted and it is recommended that our Committee continue on its work next year on the study and interpretation of water resistance.

No particular work was done this year on the question of lustre for comparison of lustres of self polishing waxes. The reason being that there was not sufficient time to study all phases of the problem. There are several accepted methods used in the paint industry at this particular time for the measuring of glosses of paints, —the paper industry also uses a gloss meter method. It is felt that a study

(*Turn to Page* 113)

Office Building Sanitation

With particular reference to floor maintenance, cleaning problems and materials used

By Frank S. Cooper, Jr.*
Rockefeller Center, New York

RECENTLY I saw an extensive report on current real estate conditions as compared with conditions of like pieces of property a few years back. Its chief theme was the very important part that operating expense plays in making that property profitable or unprofitable to its owner. Taxes, insurance, interest charges, etc. are all fixed more or less, and often the line between a profit and a loss falls between economical and uneconomical operation. For these purposes it must be assumed that the standards of service remain approximately the same. Of all operating expenses, cleaning is always of major proportions. Now, it is a well known fact that the results of a job are no better than man's ability to do the job, plus the material he uses. Proper materials used correctly produce good results, and improper materials used correctly, or proper materials used incorrectly do not give satisfactory results.

In discussing results, there is one thing that a building manager must have besides good work, or a job done properly, that is uniformity. He must know that the same job performed the same way using the same materials will give him absolutely the same effect each and every time, and where possible it is to his advantage to have a reliable, practical means of measuring this result,—in other words, a factual answer. Usually it can be demonstrated that in standardization of work you can produce better results than by trying to make each job a specialty and using special means to do it. But as you approach a standard, it is essential that some means be determined upon to assure you that you have the correct answer. It is in particular regard to this standard result that I want to present an ever present and very difficult problem, that is floors,—and the problem of waxing them.

Very frequently someone will call a building manager's office and state that he would like to have his floors waxed but is afraid that waxing will make it too slippery. The usual answer is that it is now possible to wax floors, obtain a good finish and appearance, but still not have the floor slippery (or any more slippery than an unwaxed floor) and, in many cases, it will be less slippery. The tenant says fine, go right ahead. The following day you go up to see him and find the job is very satisfactory, the appearance splendid, the tenant happy.

The next thing you know,—any time from two days to two years later,—this same tenant calls up and says someone has slipped on the floor, fallen, and broken an arm,—and the floor is as slick as glass. You immediately go up to examine the floor, and how do you do it? you run a few feet, try to slide, and say the floor is not slippery at all, in fact less slippery than before waxing. The tenant does the same thing and says the floor is so slick that it is a hazard to life and limb. And there you are, the true condition is somewhere between the two statements but, to the best of my knowledge, absolutely no means is available accurately to measure the actual condition of the floor at that particular time. The result is of course very unsatisfactory, not having any means to prove the floor is safe and that probably other causes were responsible for the accident, the floor as usual is at fault. This same condition can arise not only in tenant space but in all public corridors, terrazzo floor, elevator lobbies, and any floor on which a tenant or member of the public can walk, particularly where accidents occur resulting in claims against the building.

If this same tenant should call up and say that he has too little light in one of the offices, you can use a light meter actually to measure the condition. After comparing the result with accepted standards for the particular kind of work being performed in the room, you take whatever action is necessary, knowing that your action is based on facts. The same is true if he says he is cold. You use a thermometer to take the temperature instead of just walking into the room and after standing there a few minutes say it's either too warm, or too cold. So it seems we can measure heat, light, analyze water to find out if it is good or bad, but we can't tell the relative degree of slipperiness of a floor.

* Address before the 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 6, 1938.

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FLOOR MAINTENANCE DIVISION

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DURING the past year I have tried to work out some means to overcome this very severe handicap, and I am going to tell you what we did. Frankly, it didn't prove to be the answer, and that is why I am going to ask for your help. Now I want to make one thing clear before I go any further. Primarily, we are in the real estate business, not laboratory analysts, so the means used certainly is not that of a scientist.

The first assumption was that the coefficient of friction between a body sliding on a floor, and the floor would give an index as to the slipperiness of the floor. It remained to find a satisfactory object to move across the floor, and develop a practical means of measuring its resistance.

The first thing we used was a wooden platform about 15" x 24", to which were fastened two wooden runners, not unlike sled runners. We used leather as an outside covering of the runners. Weights of 50, 100, 150 lbs. were placed on this platform and we then endeavored to measure the pounds of pull necessary to slide this platform over any particular floor area. I shall not take the time to outline the steps that we followed in order to overcome obvious failures in such an experiment. We finally arrived at the point where we had a windlass in a fixed location and by means of a spring balance measured the pounds pull necessary to move the platform at a uniform speed in a straight line toward the windlass. We measured the pull necessary to start the platform from a standing position as well as keep it moving.

Irregularities in the floors, grit on the floor all produced variable results when the same loads were used and also variable results for different loadings. To reduce these irregularities to a minimum, we changed from runners to four small feet on the platform, rounded off on the edges and at the same time used shoe sole leather for the covering. We tried to have the area on the floor about the same as that on a man's shoe, but this became pretty difficult to determine.

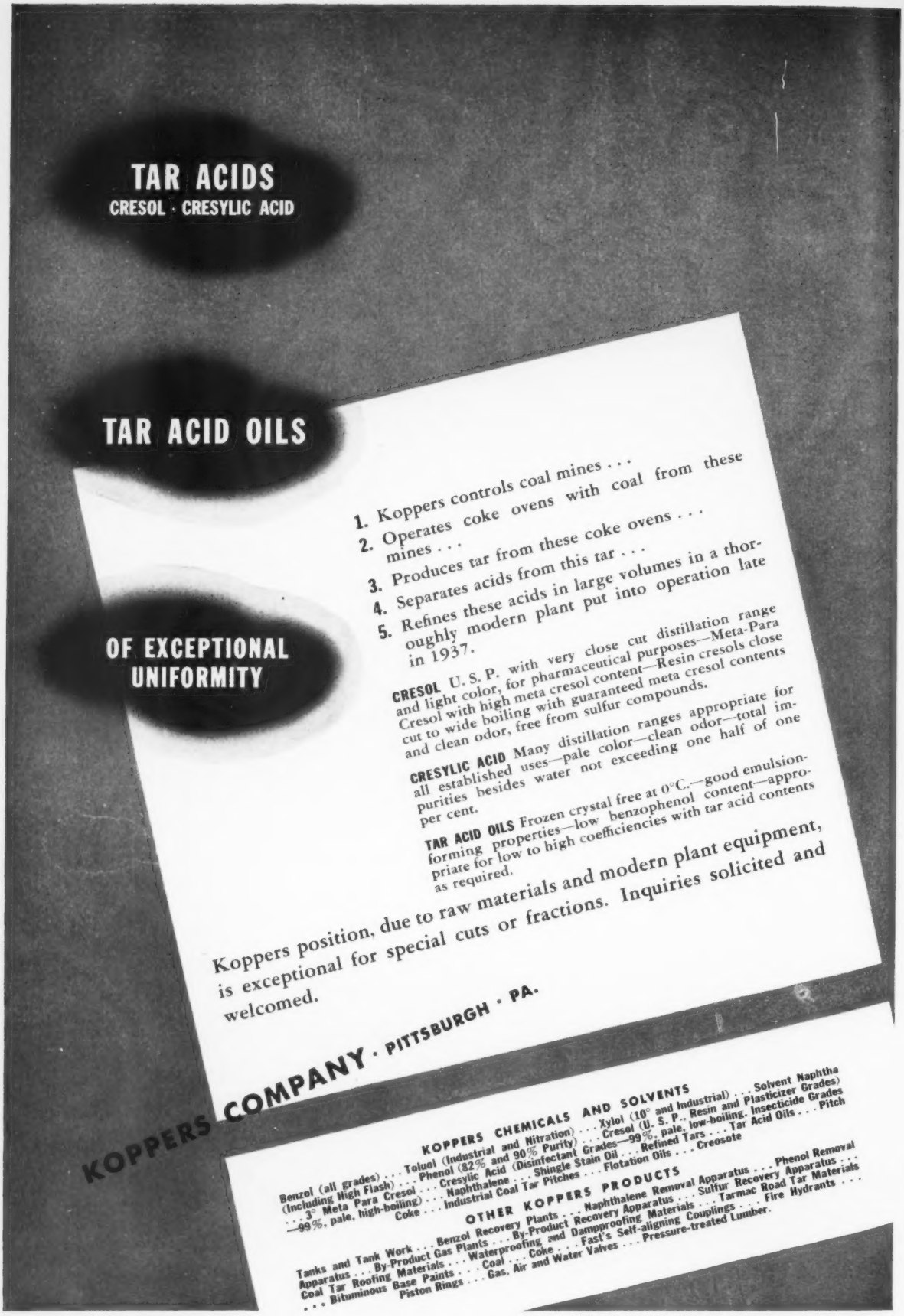
Measurements were taken on various floors and under various conditions. We used linoleum floors, before they were waxed, immediately after waxing, a week after waxing, and just before waxing a second time. We measured terrazzo floors before a day's usage and after a day's wear. We would use the usual method of seeing if the floor was slippery,—i. e. sliding on it with our feet, then use the machine to check our opinions. We used dry weather for some tests and then we would try it on damp days to see the results. We used different floor coverings, linoleum, rubber mastic tile, cork, all treated alike then treated differently. We likewise used the same floor covering, usually the same room, and measured sections which had been treated differently.

We finally began to see some consistent results, although some figures were very inconsistent. However, we did draw some conclusions. There is a definite relation between the humidity and the degree of slipperiness of certain floors. The speed with which we moved the object had a definite bearing on the friction. In some cases foreign matter such as sand, grit, or dust made a floor easy to slide on. A consistent result was that to turn the platform on its axis required much less pull than to move it in a straight line toward the pulling force. A practical interpretation of this last finding is that it is easier to turn on your foot than to slide it forward. This accounts for the fact that most falls occur when persons are turning around, or turning to enter a door, or to pass by a piece of furniture. We also found it took a greater pull to start the load than to continue its running. This accounts for the falls when people are in a hurry and not actually stable on their feet at all times between steps.

Other than generalities, we proved very little. The methods used were clumsy and our tools crude. But I am convinced that a practical means can be developed for the purpose, just as other industries have developed suitable tools for determining facts about their products. Such an instrument as I am seeking would enable a purchaser to select immediately the product which is best suited for a particular purpose and relieve him of having to depend upon intangible evidence upon which to base his judgment. As in other cases the customer turns to the manufacturer for this help. There are means at the disposal of the manufacturer or his laboratory which are not available to the consumer, whether large or small, and these means enable him to study the problem and produce an answer which will be available to all consumers. In other words, the building manager could choose the right material for the particular job and then check the results against specified standards.

IN connection with waxes and floor treatment there is one other problem which we feel needs your assistance. That is trackage of material from a treated floor to another floor which is not treated, or if it is treated, different material has been used. This trackage problem has two major disadvantages, one of which is slipperiness again. Wax tracked from a waxed floor into unwaxed corridors, elevator lobbies, ceramic tile toilet rooms, stairways, frequently present a very dangerous condition. As an example, the wax tracked by a watchman from a waxed corridor into a stairway. Here again we have a condition which represents expense to correct and no means is available to measure a point where the floor or stairway is so slippery that it should be thoroughly scrubbed. Hence, as a matter of safety, more service is given the floor than is actually necessary.

The second problem of trackage of wax onto unwaxed floors is the expense of removing it in order to maintain a good appearance. An example is a light color ceramic tile floor in a toilet room adjacent to a waxed corridor. Wax tracked onto such a floor mixes with the dirt and grit on the floor and forms a black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film which is expensive and difficult to remove.

I have gone into considerable detail to discuss slippery conditions on waxed floors and how important it is to have a safe condition. Most people associate slippery floors with waxing but such is not always the case. Frequently hard surface floors as terrazzo, cement, or marble can be as dangerous as linoleum. These harder surface floors are most often used in public sections of a building; lobbies, elevator landings, corridors, and because a gradual change takes place, such a floor frequently becomes dangerous before the manager realizes that the treatment is not correct. As these floors must maintain a good appearance, it is essential that they be treated properly and yet they must always be safe. Here again we have to depend on the sliding means of determining the condition of the floor.

Before leaving the subject of floors, I think it worth calling to your attention the increased use of the harder tile floors, such as the "mastic" tiles. These floors are very hard, durable and less expensive to install than linoleum or cork. There is an increasing use of this material which brings with it different conditions to overcome. The first answer is to use a different material on this type floor, which is all right when you have only one kind of floor to work on. But what happens when a tenant having only a few hundred or a few thousand feet has half mastic and half linoleum. To use different materials means a separate set of tools, different brushes on the machine, plus always the possibility of using the wrong material which could produce a dangerous condition on one or the other of the floors. Also you lose any advantage of standardization if you have to change methods as you go from room to room.

THERE is one additional floor problem which I can ask some help in solving. That is the cleaning of ceramic tile. Here is a care where we need a soap powder which has some abrasive material to cut the dirt. But in order to leave a good job it is necessary to rinse the floors several times to remove the final traces of the abrasive. This rinsing is laborious and very expensive. You immediately say, "use more soap,—let the soap suds do the work for you." This works well except that it requires as much rinsing to get the soap suds off the floor as it did to remove the abrasive. We have tried various percentages but still have the problem and, I understand we are not alone with it.

I shall pass on to other cleaning problems with only a brief point or so about each. I think I could spend all afternoon quoting figures to you as to thousands of pounds of this material, hundreds of barrels of that material, hundreds of thousands of square feet of this that or the other kind of floors, walls, etc., but I certainly am not. I shall tell you that in Rockefeller Center there is cleaned nightly about 3½ million square feet of tenant space. Added to these areas are the sidewalks, private street, trucking areas and shopping platforms, and you can see that it is certainly a big job.

The natural result in dealing with such large quantities is a high degree of specialization and a constant effort to standardize. However, when you standardize on large quantities, a small percentage of error becomes a large quantity in the course of a month or year. It is for this reason that we try to obtain factual means of measuring standards whenever possible and do not depend on opinion alone.

The question of extermination we dismiss by having an outside contractor do this work in all the buildings. This contract starts from the time the building erection begins and covers the entire building during the course of erection and after its completion. For practical reasons we check tenant space which we think is more likely to be a source of trouble and periodically examine the more dangerous spots. We inspect all kitchen and range hoods and flues to prevent an accumulation of grease or dirt and, by the layout of the ventilation the air from such a room is not passed into any other room. This eliminates one of the frequent sources of access to and from rooms containing food.

The washing of plastered walls is done with machines using a liquid material for the cleanser. Here again we run into trouble, different colors of walls require separate consideration due to the pigment in the paint. This results in loss of time for an office may have several different colored rooms in a relatively small layout. We would like to see the cleanser manufacturer and the paint manufacturer get together on their questions and, by their efforts produce pigments that will stand up under a standard system of washing with little variation in the different colors.

In the public wash rooms generally we do not supply soap. Cake soap is dangerous as it frequently gets on the floor and is a hazard. If you supply soap in these rooms, towels are a necessity. Paper towels are not altogether practical in large wash rooms where various people can use them and no one is responsible for the condition of the room. Cloth towels are too expensive.

The procedure for disinfecting the toilet rooms and fixtures is a nightly process. All floors and fixtures are scrubbed each night with water containing a disinfectant. However, we would not depend on this disinfectant alone to keep them sanitary for we believe that generous use of soap and water will keep the fixtures and the rooms thoroughly disinfected. We have not found it necessary to use any gas or cake containers in these rooms as, if they are kept absolutely clean, we believe the problem of deodorizing the rooms is eliminated to all intents and purposes.

We have large quantities of bronze used for architectural purposes in most of the buildings, some yellow or natural bronze and some white or nickel bronze. The interior bronze is practically all lacquered.

(*Turn to Page* 115)

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A Resume of Insecticide Literature and Patents

By Dr. R. C. Roark*

Division of Insecticide Investigations, Bureau of Ent. and Plant Quarantine, U.S.D.A.

THE literature on derris, cube, timbo, pyrethrum and synthetics used to combat insects grows at an ever-increasing rate. A review of all that has been published throughout the world in this field during the last six months would fill an issue of *Soap*. This report mentions only those articles and patents which the reviewer estimates to be most valuable to the members of the N.A.I.D.M. The period covered is June to November, inclusive, 1938. A previous report (SOAP 14, (6):127) reviewed the literature from December, 1937 to May, 1938.

The Imperial Institute of Great Britain has issued four quarterly bibliographies of insecticidal materials of vegetable origin. These give valuable references to both foreign and American publications on pyrethrum, derris, cube, and other insecticidal plants. These bibliographies which cover the period October 1, 1937 to September 30, 1938, are issued in mimeographed form and are also published in the Bulletin of the Imperial Institute, vol. 36: 123-127; 284-289.

Thomssen and Doner (SOAP 14, (7):101 and (8):91) discussed fly control for livestock with a thorough review of reports of tests of pyrethrum, derris and other insecticides. Double action sprays designed to kill and also repel flies were tested by these writers with disappointing results. Searls and Snyder (SOAP 14, (8):103) reported on the composition and application of cattle sprays.

Roark (*Chemical Industries* 42:636, 637, 639) compared the consumption of insecticides in the United States in 1918 and in 1938. Figures are given for the 1936 consumption of kerosene, naphthalene, paradichlorobenzene, pyrethrum, derris, cube and other insecticides.

Biological Testing

Tuma (SOAP 14, (6):109) reported a study of the relationship between the ages of German cockroaches and their resistance to liquid insecticides containing either an aliphatic thiocyanate or 0.03 per cent pyrethrins. More than 2,000,000 roaches were killed in these tests which showed that roaches 17 weeks old are the most resistant.

Woodbury (SOAP 14, (8):86) reported on the development of a settling-mist method for testing liquid petroleum insecticides upon the German cockroach. Pyrethrin content of oil sprays is proportional to per cent dead roaches plus per cent moribund. Rotenone and pyrethrins are about equally toxic to second instar nymphs. Normal butyl carbitol thiocyanate was much less toxic but possessed striking paralytic properties.

Campbell and Sullivan (SOAP 14, (6):119) described the metal turntable method for the comparative testing of liquid contact insecticides upon houseflies. This method is not recommended for referee work on fly sprays that differ in the nature of their toxic ingredients, but it is recommended for the control of quality of any one fly spray (e. g. kerosene-pyrethrum) in factory production.

Thomssen and Doner (SOAP 14, (10):89) described a simplified method of rearing and handling flies for Peet-Grady tests. Eagleson and Benke (SOAP 14, (11):109) reported a method of rearing houseflies.

Lowman and Sullivan (SOAP 14, (11):89) reported that mosquito larvae may be used as test insects to evaluate pyrethrum extracts. By this method pyrethrum I appears more toxic than pyrethrum II.

Pyrethrum

Leopold (SOAP 14, (9):86) discussed the production and marketing of pyrethrum in Japan. Scientific farming may be resorted to in order to meet competition of high grade pyrethrum from Kenya and a possibly subsidized product in the United States.

Beckley, Gnadinger, and Ireland (*Indus. and Engin. Chem.* 30: 835-838) described the growing and marketing of pyrethrum flowers in Kenya. Kenya flowers average 1.3 per cent total pyrethrins as compared with .9 per cent in Japanese flowers.

Sullivan, Haller, McGovran and Phillips (SOAP 14, (9):101) reported that pyrethrin I causes the higher mortality and pyrethrin II the higher knockdown when tested by the turntable method upon houseflies. A new photographic technique to determine the knockdown effect of

* Presented before 25th annual meeting, National Assn. of Insecticide and Disinfectant Mfrs., New York, Dec. 1938.

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insecticides as well as the mortality of the insects is described.

deOng (SOAP 14, (10:91), secretary of the Pacific Coast Insecticide Association reported the results of a comparative study of methods for the determination of Pyrethrins I and II in kerosene sprays containing essential oil. A modified Seil procedure was adjudged the best. Reliable methods for rotenone and thiocyanates in fly sprays are lacking.

Pantsios (*Indus. and Engin. Chem., Anal. Ed.* 10:386-387) reported that steam distillation destroys more than 10 per cent of chrysanthemum monocarboxylic acid, and therefore, all methods of estimation of the pyrethrins involving steam distillation give low results for pyrethrin I.

Schechter and Haller (SOAP 14, (11):101) reported that pyrethrum flowers lose about one-third their weight when extracted with water and this aqueous extract although toxic to goldfish was not toxic to houseflies. This operation destroyed some of the pyrethrins and hence is unsuitable for increasing the percentage of pyrethrins in the flowers or in the petroleum ether extracts.

LaForge and Haller (*Jour. Organic Chem.* 2:546-559, 1938) have reported on the nature of the side chain of pyrethrolone which is a part of the pyrethrins of pyrethrum flowers. Experimental evidence points to the existence of a cumulated system of double bonds in the side-chain.

Derris

Roark (U. S. Bur. Ent. and Pl. Quarantine E-446) published abstracts of foreign and domestic patents relating to Derris, Lonchocarpus, Tephrosia, and rotenone. More than 110 patents issued by 11 countries from 1911 to 1938 are reviewed.

Roark (U. S. Bur. Ent. and Pl. Quarantine E-457) published a list of about 400 references to reviews and popular articles on derris.

Cahn, Phipers, and Boam (*Jour. Soc. Chem. Ind.* 57:200-209) discussed the total composition of extracts from different species of Derris and also (*Jour. Chem. Soc.* 1938: 734-741) the structural chemistry of rotenone and related substances.

Jones and Sullivan (*Jour. Econ. Ent.* 31:400) found chloroform the best solvent for determining the total extractives in derris and cube. Ether and other solvents give low results.

Neiswander (*Jour. Econ. Ent.* 31:382) reported derris, cube and pyrethrum dusts effective for the control of the strawberry leaf-roller in Ohio, but fluorine compounds were more effective.

Fulton and Howard (*Jour. Econ. Ent.* 31:405) reported that the toxicity of derris to adult squash bugs was markedly increased by the addition of certain vegetable oils, especially peanut oil. Vegetable oils increased the toxicity much more than did mineral oil.

Bronson and Dudley (*Jour. Econ. Ent.* 31:415) found that the addition of sodium oleyl sulphate to derris and cube dusts increased their effectiveness against the pea aphid. The addition of an aliphatic thiocyanate to these conditioned dusts enhanced their value.

Todd (*Jour. Econ. Ent.* 31: 478) found derris dust and derris spray on bean foliage to be decomposed by light in about 7 days, but on shaded bean plants derris was effective against the Mexican bean beetle for two weeks or as long as the plants held up.

Roark (*Jour. Econ. Ent.* 31: 545) pointed out that the term "Derris extract" should be used in place of "Derris resinate" as the word "resinate" is properly defined as a salt or ester of a resin acid.

Ambrose and Haag (*Indus. and Engin. Chem.*, 30:592-595) studied the chronic toxicity of derris. Based on studies with rabbits, dogs, and rats it is concluded that from 0.56 to 2.1 grams of derris might be taken daily by a man weighing 154 lbs. without serious injury.

Synthetics

Weed (SOAP 14, (6):133) reported on the action of isobutyl undecyleneamide. This synthetic is intended to replace part of the pyrethrins in kerosene type fly sprays. It is stable, not harmful to warm-blooded animals, non-irritating and does not have an unpleasant odor. A concentration of 40 mg. total pyrethrins plus 576 mg. isobultyl undecyleneamide per 100 cc. of kerosene produces a fly spray with an AA + rating.

Tischler and Stonis (SOAP 14, (10):97) reported further on the value of alpha naphthyl isothiocyanate in fly sprays. An insecticide of AA rating is made by adding 80 mg. pyrethrins per 100 cc. to a one per cent solution of this synthetic.

Smith (SOAP 14, (11):86) reported on the use of copper naphthenate as a fungicide, wood preservative and for combating termites.

Patents

O'Kane (U. S. patent 2,127,526) patented an insecticide containing a fatty oil, pyrethrum or derris extract, and a hydrocarbon distillate, together with an oil soluble emulsifying agent.

Salzberg (U. S. patent 2,122,781) employs isothiocyanates containing naphthenyl radicals and cyclic terpene hydrocarbon radicals as insecticides.

Epstein and Harris (U. S. patent 2,123,186) employ as insecticides thiocyanate compounds of esters of unsaturated aliphatic alcohols that contain at least twelve carbon atoms.

Heckert and Peet (U. S. patent 2,124,400) patented an alkyl substituted cyclohexyl thiocyanate.

Blout (U. S. patent 2,132,013) patented the oxime, hydrazone, and phenyl-hydrazone of rotenone as insecticides.

Wotherspoon (U. S. patent 2,126,854) patented a method of preparing an essential oil from derris.

Hester (U. S. patent 2,134,556) patented nitro substituted diphenyl oxide as an insecticide.

Coleman and Zemba (U. S.

(*Turn to Page* 115)

1939

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Insecticide Marketing

"Let's sell the public what it needs" — Report of the N. A. I. D. M. Insecticide Marketing Committee*

By Harold A. Thomas

Shell Petroleum Corp.

THE Marketing Committee of this Association feel it sufficiently important that all members of this Association, collectively and individually, recognize the importance of the public's reaction of the use of various insecticides marketed by the members of this Association. This condition seemed to manifest itself more this year than ever before and definitely forecasts many changes to come in both manufacturing and marketing. Looking backward, we recall that unlooked-for conditions existent this year have forced the majority of us to search for greater efficiencies in order to keep the volume of sales and commensurate profits up to the highest possible figure. To add to our confusion, we experienced unprecedented climatic conditions throughout the United States during the greater part of the Summer selling season.

The majority of our members cannot overlook the fact that many of us in the past few years have sold our household insecticides and live stock sprays on a rather hit-and-miss marketing and advertising program, with no particular specific publicity being given to the actual capacities of each product for a particular job, except as required by the Federal and State laws and regulations. It is generally agreed that the consumer will buy any product, well advertised and well presented, once, but that he or she will be reluctant to reorder the same product when the individual needs were not satisfied by the initial purchase. Manufacturers who recommend the use of their liquid household insecticide for the control of insects attacking foliage should be certain their spray is safe for such use. Household sprays as we know them are not permanent proofing agents for clothes moth attack, but their frequent and periodic use provides a means of protecting fabrics from moth injury by killing adults and other stages which can be wetted with the spray.

It is definitely important that we band together and devise ways and means of lifting our insecticide products sold by the members of this Association to the highest possible quality level for grades sold, so as to secure the respect of the public and its resultant purchases of our products.

It has been the general observation of this Committee that, since the adoption of the commercial insecticide standards, the buyers purchasing on bids have on the whole been prone to follow the Association's commercial standard recommendations. However, it has been reported that several Governmental branches, although specifying in their request for bids that the official Peet-Grady Method be followed, are requesting quotations on insecticides of such strength that they are much stronger than even the "AA" Super Grade. Those concerned with the formulation of the Association Grades and U. S. commercial standard are of the opinion that insecticides of this strength do not yield the efficiency on a cost basis that would be expected from an "AA" grade. We, therefore, are of the opinion that inasmuch as the commercial standards listing "AA," "A," and "B" were initiated and consummated by joint collaboration of the Government agency representatives, along with the members concerned in our own organization, some steps be taken to familiarize our own Governmental division chiefs with the commercial standards and Association recommendations so as to obviate non-standard specification bidding, which caused so much confusion to our membership in the past.

It would be folly to dodge the issue of prices which has been spoken about so fluently by all of us in this Association this year. However, we should not allow our feelings to become befuddled because of the new and lower prices existing on insecticides this year for reason that our industry is in no wise different from any other industry where the products sold are competitive to the degree that they are on household insect sprays, live stock sprays, etc.

We all know that radios, automobiles, tires, and any and all daily consumption commodities finally recede in price levels as an industry becomes established, and as manufacturing economies drive the cost of manufacture and sales to levels lower than when the industry had its original birth. The recent change in price structure in our own industry is merely a further proof of this well-known phenomenon. Lower prices and better products

* Before 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec., 1938.

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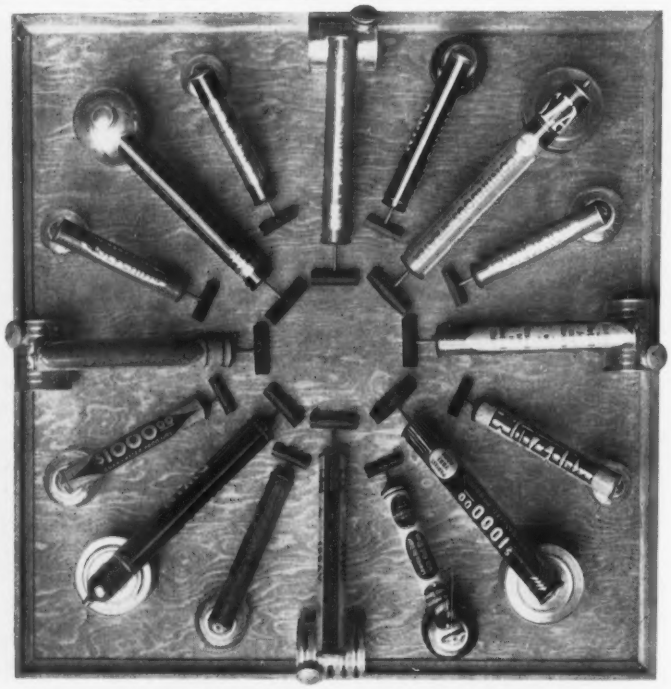

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will obviously bring greater consumption and, with greater consumption, more general appreciation and understanding of such products sold. This further increases the demand for goods, and, although the unit profit decreases the gross by reason of greater volume, sales may be expected to rise and become more uniform throughout the year.

Your committee is still of the opinion that more publicization is due our association and the members that make up its body. Recently, the National Paint, Varnish, and Lacquer Association, using their Golden Anniversary (fifty years) as a background, printed and distributed to its members a small folder showing the names of the concerns making up its membership. Naturally, all members of this Association enjoy the Association's prestige, and take occasion to publicize it at every opportunity. It is, therefore, the Committee's recommendation that the Board of Governors consider a like procedure for our Association, and prepare a sample offering with an attempt to secure the approval of the membership and eventual distribution of such material through its members to the buyers confronted throughout the year. This would form a convenient means of connecting the Association with the newly adopted United States commercial standard for insecticides.

Fifty Years a Soaper

(*From Page* 33)

one-eighth inch thick. Later we put in a home-made continuous dryer with hot and cold rolls, being the first ones I think to adopt that method.

In 1895 we attempted to educate the laundry trade to using a neutral soap and building it up with alkali to suit their needs, and particularly to suit the type of water they were using. It seems we were about twenty years ahead of the times as laundries in those days did not have the equipment they have today with soft water supply, soft bleaches, etc. In those days it was common practice in the laundry to use straight chloride of lime as a bleach. The result was a killing of the suds and resultant specks of lime soap, commonly called "black specks" or "soap specks." That was the bane of their existence for the average laundry. We had to discontinue the manufacture of a neutral soap as the laundries were not prepared for it and they wanted a soap that was already built up with alkali, to take care of hard water.

In 1897 competition was so keen and soaps were of such inferior quality, and prices were so shot to pieces that it was impossible to carry on a satisfactory business, so we formulated a plan whereby each soap was to be made to stand on its own merits. We promoted the "percentage of cost" method to establish the cost of soap necessary to wash a load of a hundred shirts.

There were a great many conditions that entered into this, such as the character of the water, size of the load, and the building of the soap. We found it required about as much soap to wash a half load of fifty shirts as it did a hundred shirts, because the laundry used just as much water, and it took just as much soap to impregnate that water.

The fact is, laundries in those days used about a foot of water in the inside cylinder, which had the effect of causing the load to float, not getting the proper cleaning action. We promoted the idea of cutting the inside cylinder down to three or four inches, giving the goods a chance to drop and improving the cleaning process. That enabled us to show a big saving in soap and demonstrations were made showing a saving of 50 per cent and a much better cleaning job.

In about 1910 the present day flake soap came on the market and of course the type of chips we were putting out had to be changed to meet competition. We had land leased and equipment purchased and were ready to erect a new plant when the flood came along and closed up the J. P. Davies Company.

The new Davies-Young Soap Company took over what assets of the old firm that were left and started in business at its present location August 1st, 1914,—the same day that Kaiser Bill across the water started on the warpath. The following five years were active years, what with soaring prices, inability to get raw materials, and necessity of changing products to meet changed conditions.

Potash during the war was one of the materials very difficult to get. In the early part of the war we bought up odd lots of potash from soapmakers over the country who preferred to take their profit on potash than to continue the manufacture of potash soaps, our business of course being at the time the manufacture of potash soap exclusively. Then when these supplies ran out, we bought muriate of potash from fertilizer plants over the country and had the muriate converted into a low grade of potash, testing around 72 per cent KOH. It didn't suit our purpose very well but it was all we could get.

Later, just before the famous British Order in Council went into effect blockading the North Sea, a German boat barged into New York with a cargo of potash. We had been paying, as I recall, around 26c per lb. for what potash we could get, but we were fortunate in getting two cars from that boat at 6c per lb. That was the last potash that came over.

A number of enterprises were started in the West purporting to have a potash supply, but most of them turned out to be purely promotions. A man came into the office one day and wanted to sell us a mud lake in Nebraska, claiming that the mud at the bottom contained a percentage of potash suitable for commercial production. Later on a very excellent sample of potash was sent us produced from kelp on the West Coast, but the price was prohibitive for soap making purposes. That's the story of potash during the war. (Today, of course, we use only American potash.)

I only mention a few of these

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Applied with a mop—can be wiped in ten minutes or steel-wooled within twenty minutes after application and can be walked on in about four hours.

Fed-Co Penetrating Sealer is particularly adaptable to assembly halls, auditoriums, armories or combination assembly halls, dance floors and gymnasiums, schoolroom floors, corridors, office building floors, warehouse, show-rooms and any other type of surface that is subjected to unusually heavy traffic or wear.

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things, to accentuate the difficulties and conditions under which soapmakers worked in those days, and the improvement that has been made in the quality of soaps on the market today. There are many other experiences I could mention but these will suffice to give some notion of the changes that have taken place since 1888.

It is my opinion that the soap on the market today, of American manufacture, are the best in the world. Styles have been changed in soaps however, as in many other things, and styles have been changing for fifty years. Changes are taking place *today* in the soap business. Chemical research is introducing new products, and we are told that the soapless detergent is on its way in and is here to stay. That would seem to indicate its resultant effect on the per capita consumption of soap and a steady lessening of fats going into the soap kettle.

I do not see how elimination of consumption of soap can ever be wholly accomplished. I don't think that it is "in the cards." You remember Germany was destitute of soap during several years of the war, and what disastrous results it had on their linens and other fabrics.

Soap, you know, is one of those everyday commonplace products that we take for granted, but it might be interesting to try to conjecture what the world would do without soap today.

Looking back over my fifty years in the soap business I think the few coming lines will express my feelings better than anything else I can say—

If I could talk to myself as I knew myself
Fifty years ago
I could tell myself a lot of things
—Some things I would like to know.

Floor Wax Testing

(*From Page* 98)

of these methods could be made and there probably might be some method of applying existing methods used for the measuring of gloss for wax film.

These are four separate problems that are confronting us in the wax business and it is felt that much can be done if individual specialty products are studied by the sanitary supply committee and standard definitions be formulated and adopted so that when we speak of a wax we can define its essential characteristics according to definite criteria, such as we do by the FDA test for phenol coefficients.

The methods that were outlined of course are just the beginning of a series of studies and they are in no way to be interpreted as final. They are the beginning to a further study of the problem, and criticism of them will be appreciated by the Committee in such a way that its work for next year can be continued should the members show an interest in these particular four phases of merchandising of self-polishing waxes.

The production group of the Sanitary Supply Committee it is hoped next year will be able to function in such a manner that it will prove of service to all those in the sanitary chemical field. It is hoped that production problems, together with equipment and repairs might be studied and discussed freely by the members because it is only in the spirit of cooperation in this particular field that there can be any success for this group.

The raw material section has a tremendous job. It will be their problem to study sources of supply of raw materials, and to acquaint the members with any significant facts concerning raw materials which are coming on the market. In this way we hope that some day the Committee might be able to set up standards for certain raw materials which the sanitary specialty group purchases for which standards do not exist today. One of the outstanding problems that this committee will study next year will be an attempt to define the various grades of carnauba wax. It is felt at this time that this particular study may be taken over a period of a number of years.

Another point that will be of interest to the members of the Sanitary Supply Committee is that the raw material section will deal with the problems of the merchandising of certain basic raw materials by certain of the manufacturers who are merchandising material into our field without passing or giving sufficient information to the buyers to tell them adequately what the material will do and what its complete specifications are.

One of the outstanding things which came to the attention of the Committee on Raw Materials was the sale of a certain material for use in liquid soap. It was claimed that this material gave a phenol coefficient to the liquid soap when it was incorporated with it. This was found to be true, but after a period of several weeks the material lost its phenol coefficient. The manufacturer who sold the item guaranteed that the phenol coefficient was permanent. This put the people who bought it to considerable expense because they had to test the material and found that it was unusable. We feel that such things should be brought to the attention of our raw material section so that other members in the Association would not be put to the same expense of testing materials which do not actually do what they are supposed to do.

Another matter which we hope the Sanitary Specialty Committee will undertake next year is the more thorough education of the sanitary supply salesmen. It is felt that much can be gained by a study of the methods of education of sanitary supply salesmen so that when they sell materials to the consuming public they will present the trustworthy facts in a logical manner without fancy claims which cannot be substantiated.

It is hoped that the members of the Association who are interested in sanitary specialties will volunteer next year when the Committee is formed to work on these three phases, as well as others in the hope that we may be able to do something for the sanitary supply members of the Association who are interested and willing to cooperate in the work that has been started.

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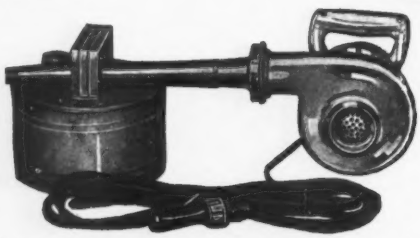
MODEL 54—1 QT. CAPACITY

It features an automatic time switch set at any point from 1 to 30 minutes — sprays desired amount without any attention whatever — automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. MODEL 53 same as Model 54 except does not have automatic time switch.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ⅛ H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.



Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor. Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

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We do not sell insecticides. Our business is manufacturing sprayers.

Patented in U. S. A. and Foreign Countries.

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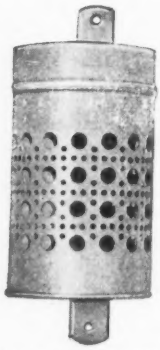
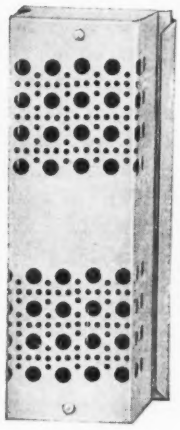
Scientifically Designed

DEODORANT CONTAINERS

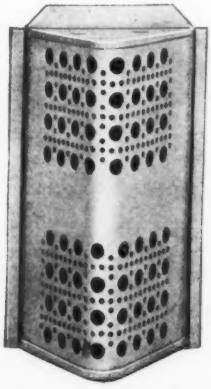


No. 1—4⅞″ x 2¾″
Holds 16 oz. block
or 4—4 oz. blocks



No. 3—8″ x 2½″ x 2¼″
Holds 24 oz. oblong blocks

No. 2—8⅜″ x 3-3/16″
Holds 32 oz. block
or 8—4 oz. blocks



No. 4—7″ x 4″ x 3⅞″
Holds 16 oz. triangle block

Attractive perforation—extra strong brackets. Made from 28 gauge metal—white coated inside and outside.

Write for prices and further details

NATIONAL SANITARY CHEMICAL CO.

Stump and Conway Sts. Baltimore, Md.

'Manufacturers Exclusively for the Jobber'

Insecticide Literature

(*From Page* 107)

patent 2,133,972) patented a hydroxyl-alkyl ether of a phenol for use in a fly spray in combination with insecticidal plant products, such as rotenone.

Bousquet, Graves, and Salzberg (Reissue 20,869) patented n-dodecyl alcohol, esters and amines as insecticides.

The following materials have been patented for mothproofing purposes: thianthrene by Martin and Hirt (U. S. patent 2,123,572), alpha-aceto-benzotetronic acid by Martin (U. S. patent 2,127,879), monophenyl-di(ortho-xenyl)-phosphate by Mills and Allen (U. S. patent 2,128,189), and 4-tertiary-butyl phenoxy ethanol by Mills and Allen (U. S. patent 2,134,001).

Faloon and Whittaker (U. S. patent 2,119,458) moth proof wool by soaking it first in a one per cent solution of calcium selenate, contrifuging and then soaking in a one per cent solution of antimony trifluoride.

Stotter and Herman (U. S. patent 2,130,435) moth proof wool with a mixture of an acid soapy washing agent and certain water-soluble fluorine or selenium compounds.

Office Building Sanitation

(*From Page* 103)

and maintenance consists of a damp cloth rub-down nightly for those sections which are touched daily. The sections which are not in contact do not have to be serviced so frequently. After several months, depending on its location, all of the bronze is stripped and relacquered, this work being handled by one group for all the buildings.

I wish to remind you again that your help and study on this slippery floor problem will be of tremendous advantage to all consumers. Perhaps the system we used is entirely impractical and unworkable, but it is worth many times over the effort we have spent if we can eventually develop a practical set of standards throughout your industry and a suitable means of measuring the conditions as they actually exist on the floor. Although we have taken every precaution available to keep the floors in a safe condition and we feel that with present day methods of judging the floors are not slippery, nevertheless, it would be very desirable to have a more practical means of measuring the relative degree of slipperiness between the different floors and have set standards to which all floors should conform.

DRIP MACHINES

Are drip machines coming back? A symposium on this question from ten leading authorities in the trade which was planned for publication in this issue has been postponed to February. Views as varied as they are numerous. Next issue! Watch for it!

Indian Derris Root Increase

During the first seven months of 1938 derris root exports from Java in the Netherlands Indies totaled 88 metric tons, the majority of which went to Great Britain. This compares favorably with the 69 metric tons exported in 1937 and 25 metric tons in 1936. Exports of derris root from the island of Sumatra have decreased, however, because internal consumption of derris for insecticides has greatly increased.

New Zealand Polish Market

New Zealand has recently developed domestic manufacture of floor waxes, polishes and finishes so that there is now only a small market for imported products of this type. A small quantity of liquid rubless wax is imported from the United States. Imports of polishes into New Zealand in 1937 amounted to approximately $12,828. Of this the United Kingdom supplied $4,892; Australia $4,544; and the United States $3,300.

James F. Beatty Dies

James F. Beatty, secretary of Solarine Company, Baltimore, died suddenly early last month.

New Wax Manufacturer

Wax Pol Laboratories will shortly start the manufacture of wax polishes and floor cleaners at 247 Lorraine Street, Brooklyn. Charles S. Glickman has been retained as consultant and is designing and building the new plant. He will also have charge of test work when the plant goes into production.

Stanco Moves Offices

The insecticide division of Stanco, Inc., formerly located at 2 Park Avenue, New York, was moved December 15th to new quarters at 216 West 14th Street. W. J. Zick, who directs the activities of this division, will have an office at the West 14th Street address, as well as at the executive headquarters at 1 Park Avenue.

Memphis Operators Meet

At a meeting of the Memphis Pest Control Association held recently, plans were discussed for making a careful study of the Mississippi State Law with regard to regulations announced by the Mississippi State Plant Board. The Association also made plans to be represented at the Southern Pest Control Operators' Conference to be held at the University of Louisiana.

Derris for Shade-trees

A spray containing 4 pounds of either derris or cube powder having a 4 per cent rotenone content and 16-18 per cent of total extractives, and 4 pounds of rosin-residue emulsion, per 100 gallons of water, was an effective contact spray against the larvae of the elm-leaf beetle, willow-leaf beetle and Mexican bean beetle, and had some contact and repellent action against the adults. Japanese beetles, June bugs, rose chafer beetles and Asiatic garden beetles were repelled from feeding for 4-8 days or more after the spray application. Cube powder was as effective as derris powder, both as a contact and as a repellent. Clyde C. Hamilton. *Natl. Shade Tree Conf., Proc.* **13,** 140-7; through Chem. Abs.

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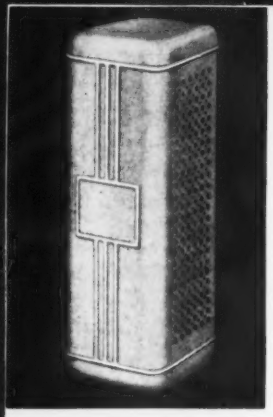
POLISHES
CLEANERS
FLOOR
TREATMENTS
PLUMBING AIDS
URINAL
STRAINERS



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St. Louis P.C.O. Elects

St. Louis Pest Control Association elected officers for the coming year at their annual meeting held recently at the Hotel York. The new officers are H. H. Cassilly, president; Roy McCullough, vice-president; and Charles Denny, secretary-treasurer. William E. Martin will continue as chairman of the board of directors.

Hold Bowling Tournament

Several Southern California pest control firms recently completed a twenty-week bowling tournament. A bronze trophy was awarded to the winner, Western Exterminating Co., Los Angeles.

N.A.I.D.M. Convention

(*From Page 92*)

Jeyes Sanitary Compounds Ltd.	R. G. Berchem
Kessler Chemical Corp.	W. W. Angus Joseph E. Stonis
General Naval Stores Co.	W. H. McArdle
Koppers Co.—Tar & Cheml. Div.	James H. Carpenter R. C. Wickersham
Lambert Pharmacal Co.	Dr. G. F. Reddish
Lehn & Fink Products Corp.	Dr. E. G. Klarmann
Lever Bros.	C. N. Anderson
McCormick & Co.	C. P. McCormick A. E. Badertscher C. L. Fardwell L. W. Jones
McLaughlin-Gormley-King Co.	Geo. A. McLaughlin John W. Purcell
Magnus Mabee & Reynard Inc.	M. S. Barker Geo. T. Denby J. B. Magnus
Merck & Co.	Peter Dougan
Midway Chemical Co.	L. D. Benedict G. A. Bowden J. T. Hohenstine
Monsanto Chemical Co.	Frank E. Byrne
Murray, Donald M.	Donald M. Murray
National Can Corp.	T. J. Boirne L. M. Blickman Wm. R. Janney E. D. Murphy R. S. Solinsky
Niagara Alkali Co.	Wm. J. Weed
Norda, Inc.	A. J. Kohl
O-I Can Co.	L. C. Bohs
Opitz, John, Inc.	Chas. F. Opitz
Owens-Illinois Can Co.	F. X. Beckman H. J. Kelleher Smith L. Rairdon J. W. Richardson J. W. Thayer
Pease Laboratories	Dr. H. D. Pease
Penick, S. B., & Co.	D. C. Beach Wm. J. Finlay B. A. LaForge Dr. Thomas Lewis Harold Noble A. D. Penick F. F. Rauch

L. J. LaCava, entertainment committee chairman, was "absent but accounted for" at the banquet . . .

Pennsylvania Oil Products Co.	F. W. Kroneman
Pest Exterminator Co.	Geo. F. Buck
Phinotas Chemical Co.	P. J. Walsh
Powell, John, & Co.	C. G. W. Campbell Wm. J. Haude David G. Hoyer John Powell G. R. Rinke Edwin S. Twyman Dr. Alfred Weed
Prentiss & Co., R. J.	R. A. Bevernick Hal R. King R. J. Prentiss
Reefer-Galler Inc.	M. S. Galler
Reilly Tar & Chemical Corp.	Wm. Higburg W. G. Hirschfeld P. C. Reilly Jr. J. L. Tildsley Jr.
Rex Research Corp.	J. E. Armstrong O. F. Hedenburg H. W. Moburg
Robbins Disinfecting Co., Geo. B.	Guy P. Robbins
Rochester Germicide Co.	W. B. Eddy J. A. Walsh
Rohm & Haas Co.	C. J. Dumas R. N. Lindabury D. F. Murphy M. J. Rolstad
Ryland, H. C., Inc.	Alfred Johnson
Salom Chemical & Supply Co.	E. S. Kelley Jr.
Sanitary Products & Paper Co.	A. L. Scharf
Selig Company	S. S. Selig
Shell Petroleum Corp.	W. Mullemeister H. A. Thomas H. R. Berry
Shell Union Oil Corp.	J. W. J. O'Dea C. W. Williamson
Skinner & Sherman Inc.	Dr. B. G. Philbrick
Sinclair Refining Co.	N. J. Gothard F. O. Huckins
Soap	G. A. Dorland W. E. Dorland Ira P. MacNair
Socony-Vacuum Oil Co.	A. W. Morrison C. E. Smith
Sonneborn, L., Sons, Inc.	R. W. Bjork Edgar E. Brand F. J. Richter
Stanco Inc.	F. C. Nelson M. N. Pierson N. A. Sankowsky W. J. Zick
Standard Container Co.	G. Stewart King
Standard Oil Co. (Ohio)	R. O. Cowin
Standard Oil Co. (Indiana)	J. G. Hamming
Strahl & Pitsch	Herbert Baer
Tanglefoot Co.	W. J. Wagner
U. S. Rubber Co.	Walter Horst
U. S. Sanitary Specialty Corp.	Geo. L. Simmonds
van Ameringen-Haebler Inc.	A. L. van Ameringen
Vestal Chemical Co.	F. J. Pollnow J. E. Saal
Watkins Co., J. R.	Dr. E. G. Thomssen
West Disinfecting Co.	Dr. Wm. Dreyfus
White Co., Robert C.	Dr. Robert C. White Robert C. White Jr.
White Tar Co. of N. J.	H. W. Hamilton
Williams Sealing Corp.	H. W. Lange R. L. Wood
Wilson & Bennett Mfg. Co.	E. T. Statler
Wood & Co. Ltd., G. H.	G. H. Wood
Wright, John H.	John H. Wright
Zonite Products Corp.	C. E. Entemann Jr. J. F. Greeze

Guest Registration

Wm. O. Buettner, National Pest Control Association, Brooklyn.

Dr. F. L. Campbell, Associate Professor Entomology, Ohio State University, Columbus, Ohio.

Clarence E. Cooper, Clarence E. Cooper Inc., New York City.

Dr. Alvin J. Cox, Chief, Division of Chemistry, Department of Agriculture, Sacramento, California.

M. M. Donohue, Bureau of Standards, Comonwealth of Pennsylvania, Harrisburg, Pa.

J. J. T. Graham, Senior Chemist, Food and Drug Administration, U. S. Department of Agriculture, Washington, D. C.

Philip Granett, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

Dr. Clyde C. Hamilton, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

Dr. Ronald C. Law, Chief Sanitation Officer, Canadian National Railways, Montreal Canada.

Dr. E. R. McGovran, Bureau of Entomology & Plant Quarantine, U. S. Department Agriculture, Beltsville, Md.

Dr. R. C. Roark, In Charge, Insecticide Investigations, Bureau of Entomology and Plant Quarantine, U. S. Dept. Agriculture, Washington, D. C.

Ray Schlotterer, Secretary, Drug, Chemical & Allied Trades Section, New York Board of Trade, New York.

Q. Forrest Walker, R. H. Macy & Co., New York.

Robert F. Wilson, Special Counsel, New York.

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STANDARD SPRAYERS are not stock sprayers . . . they are "tailor-made" sprayers designed individually to *your* specifications . . . look into STANDARD SPRAYERS now for 1939.

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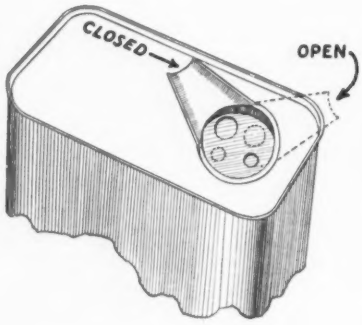

The newest and lowest cost STANDARD Self-Closing Pour Spout for your liquid insecticide, floor wax, disinfectant, oil, polish, etc. Low cost is only one of a dozen advantages. Let us tell you more about this newest pour-spout.

The ideal combination for your 1939 fly-spray . . . STANDARD container with self-closing pour spout . . . and STANDARD Tailor-Made Sprayer. Ask for further details.

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Perfume Oils of Kenya

(*From Page* 32)

oil in Kenya Colony offers no attraction to the planters who can derive much more substantial profit at present from the growing of cereals, pyrethrum and other important and vital crops.

Shipments of several years and samples of genuine mawah oils, the latter taken by the writer during his visit to Njoro in the Fall of 1937, upon analysis in our New York laboratories showed the following constants:

Specific Gravity at 15° C.:	0.892 to 0.895
Optical Rotation:	—15° 15′ to —17° 35′
Refractive Index $^{n}D20°$ C.:	1.4692 to 1.4703
Acid Value:	2.8 to 5.6
Content of Geranyl Tiglinate:	6.3% to 8.4%
Content of Total Geraniol:	64.8% to 67.2%
Content of Menthone:	18.1% to 21.2%
Solubility at 20° C.:	Soluble in 2 volumes and more of 70% alcohol.

Most of the oils contained no formate, some of them very little (up to 0.5 per cent) geranyl formate.

Oil of Geranium, Kenya

WHILE production of oil of mawah in Kenya proved successful, all attempts to develop a type of geranium oil identical to or at least very close to the French (Algerian and Reunion) oils were beset with tremendous difficulties, if not actual failure. The idea of growing geranium in Kenya was first conceived during years of abnormally low cereal prices when planters were eager for other, more profitable crops. Nowadays wheat and corn prices in Kenya are again normal and the growing of cereals is economically sound. Production of geranium oil, on the other hand, has not come up to expectations. Summarizing all factors, the plantings degenerated after a promising first year and the yield of oil per plant and per acre became abnormally low. Planting, therefore, became too expensive; running expenses, such as labor and fuel, could be covered but there was nothing left to write off investments into the plantations, much less anything for profit. Not enough credit can be given to W. J. Dawson of Njoro for his untiring pioneer work in this field.

The failure of geranium to come up to expectations can be attributed to several reasons:

1. Quite likely the highlands of Kenya Colony with their dry, thin air, very cool nights and strong ultra-violet radiation during daytime, are not conducive at all to the growth of geranium. The geranium plants in general grow best in temperate and somewhat humid, neither too moist nor too dry climate. The sea breezes of Reunion Island are charged with just enough moisture to carry the geranium plants over periods of drought while the highlands around Njoro at times suffer from complete aridity. It is quite possible that in lower altitudes of Kenya Colony, in sections toward the shore of the Indian Ocean, conditions more suitable to the growth of geranium might be found. Of course, years and years more of experimenting would be required to establish certain sections where the trade winds deposit just sufficient but not too much moisture.

2. The first experiments in the growing and distilling of geranium in Kenya were quite promising. In an experimental still and probably from well selected plant material, yields were obtained which tempted a very large extension of the plantings. However, in work on aromatic plants it is very dangerous to apply the results of small experiments to immediate large scale production, as the mortality of the plantings after a few years is always a dangerous possibility which must be reckoned with.

3. This rapid extension of the geranium plantations from small, experimental plantings possibly weakened the plants to the point of degeneration. Mr. Dawson experimented with several types of geranium, with seeds as well as with slips, the former method being unsuitable because the seeds of *Pelargonium*, a hybrid, do not come true to their parents. He imported plants from Grasse, from Algeria and from Reunion Island. In every case the plantings did well the first year but subsequently degenerated, developing too much woody and not enough leafy material. The Grasse plants finally gave yields of only half, while the Reunion plants yielded only one-third that of mawah. In general, the oil yield proved to be only half of what it should have been in order to carry all expenses, write off investment and leave some profit.

4. The oil finally produced from his geranium plantings was slightly different from the French (Algerian and Reunion) type and the users hesitated to pay a price sufficiently attractive to permit Mr. Dawson the continuation of his experimental work.

Yet in spite of these discouraging aspects, Mr. Dawson, a determined Scotchman, has not abandoned hope that by further experimentation in different sections of Kenya Colony and by proper scientific selection and propagation of the most suitable plant strains, best adapted to climatic and soil conditions of Kenya, success can finally be achieved. Of course, considerable capital, which no single planter has at his disposal, would be required. Last year Mr. Dawson plowed under 1100 acres of geranium and replaced it with wheat and corn. There still remain a few hundred acres of geranium around a centrally located distillery equipped with four large stills and modern types of condensers.

(Ed. Note:—Kenya lavender, cedarwood, tagetes, peppermint, and other oils will be discussed in the next issue by Dr. Guenther.)

References

[1] "New Kenya Geraniums and Oils" in *The Perfumery and Essential Oil Record*, September 1934, 278. "Empire Production of Essential Oils for Perfumery" by E. W. Bovill in *The Perfumery and Essential Oil Record*, December 1934, 385-390. *The Manufacturing Chemist*, January 1935, 21; February 1935, 45; March 1935, 83. "Geranium Oils in Kenya" in *The Perfumery and Essential Oil Record*, July 1937, 235; September 1937, 321.

[2] *The Perfumery and Essential Oil Record*, July 1937, 235.

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Chemistry of Laundry Materials, by D. N. Jackman. A new book for the laundry operator, containing valuable information on the chemistry of laundry materials. Discusses alkalies, soaps, bleaches, starches, also the newer detergents, synthetic soaps, etc. 230 pages. $2.50.

Laundry Chemistry, by Harvey. A practical book dealing with basic principles of laundry chemistry. Of use to suppliers of laundry materials as well as laundry operators. $1.75.

Who's Who in the Chemical Industry, by Haynes. Biographies of 5,686 men in the chemical field cross-indexed geographically and by companies. Gives past records, company connections, hobbies, interests, accomplishments, etc. $6.00.

Our Enemy—The Termite, by Snyder. The termite is treated from the economic as well as the entomological point of view in this book based on the author's 26 years of study of termites and methods for their control. Practical control methods and termite proof construction are discussed in detail. 196 pages, $3.00.

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News.....

Move Hy-Glo Products

Hy-Glo Products Co., manufacturer of sanitary supplies, which formerly operated under the name of Malcolm Barnard Co., has recently moved to 3064 Ashland Avenue, Detroit.

Mary Carolyn Joins Curletts

A daughter, Mary Carolyn, was born December 17 to Mr. & Mrs. John N. Curlett. Mr. Curlett is a vice-president of McCormick & Co., Baltimore, and at the recent convention of the National Association of Insecticide & Disinfectant Manufacturers was elected 2nd vice-president of that organization.

Midway Signs F.T.C. Order

Midway Chemical Co., Jersey City, N. J., has entered into a stipulation with the U. S. Federal Trade Commission, agreeing to discontinue advertising that "Fly-Ded" is harmless and will exterminate flies, mosquitoes and moths; that "De Luxe Cleaning Fluid" leaves no rings and cannot explode; that "Ant Flowers" kills any but sweet eating ants; that "Garden Spray" is effective against cut worms and that "Swish Stock Spray" will exterminate all types of flies and insects.

American Products Adds Unit

American Products Co., Cincinnati, has acquired the Visco Chemical Products Co., Lancaster, Ohio. The Visco plant which manufactures laundry specialties, polishes and cleaners, will be moved to Cincinnati.

J. R. Oppenheimer Dies

Joseph R. Oppenheimer, secretary and treasurer of West Disinfecting Co., Long Island City, N. Y., died on December 19th, at the age of 64, following an operation. He had been associated with West Disinfecting Co. since 1910 and previous to that was connected with Standard Oil Co. Mr. Oppenheimer was an active member of the boards of various charitable organizations and a

Joseph R. Oppenheimer

member of the Inwood Country Club. He is survived by his wife; his son, L. J. Oppenheimer; and his daughter, Mrs. Irving Feig; three brothers and two sisters.

Fined for Antiseptic Sale

F. W. Woolworth Co., Los Angeles, was recently fined $100 on the charge that antiseptic was sold by a salesperson who was not a registered pharmacist. Municipal Judge Newcomb Condee's ruling, in the suit brought by the California State Board of Pharmacy, was that an antiseptic is not a proprietary medicine and therefore must be sold under the supervision of a registered pharmacist. The State Board had filed several similar complaints last July against a number of variety stores charging violation of the state pharmacy law.

Revise Drug Act Rules

Regulations for the enforcement of the new Federal Food, Drug & Cosmetic Act were approved December 23 by Secretary of Agriculture Henry A. Wallace. The regulations represent a substantial modification of the proposed regulations on which hearings were held in Washington November 17 and 18, 1938. The tentative regulations specified that the name and address of the manufacturer must be given on the principal panel of the label. Consumers agreed that their interest would be served equally well if that information, in the case of some types or sizes of packages, appeared on the label elsewhere than in the principal panel, provided it was prominently displayed so that it would be easily seen under customary conditions of purchase. The full text of the regulations will appear in the Federal Register. Copies of the regulations may be obtained from the Food and Drug Administration, Washington, D. C.

Japanese Pyrethrum Exports

Exports of pyrethrum flowers from Japan during the first ten months of 1938 had a total value of 4,915,143 yen as compared with 5,651,774 yen for the corresponding period of 1937, according to a report from Tokyo. Exports of pyrethrum powder increased, however, having a value of 873,453 yen in 1938 as compared with 853,350 yen in 1937. Exports of liquid pyrethrum products had a value of 1,362,026 in 1938, being an increase over the 660,496 yen reported for 1937.

American Insecticides Wanted

A concern in Cairo, Egypt, is interested in establishing an agency arrangement for the sale of insecticides of American manufacture. Full details may be obtained by writing to the U. S. Bureau of Foreign & Domestic Commerce, mentioning inquiry number 8793.

Zophar Mills Add New Line

Zophar Mills, Inc., Brooklyn, manufacturers of wax and resinous products, have just added a chemical specialties division under the supervision of S. M. Hendrickson. A full line of industrial cleaning and drawing compounds will be manufactured.

INVESTIGATE

The Perfect Twins

MORTOLIN	MORTICIDE
THE IDEAL MOTHPROOFING COMPOUND	THE TESTED BED-BUG CONCENTRATE
OIL SOLUBLE	ODORLESS
NON-POISONOUS	EFFICIENT

Send for Samples and Complete Information

PYRETHRUM PRODUCTS DERRIS PRODUCTS

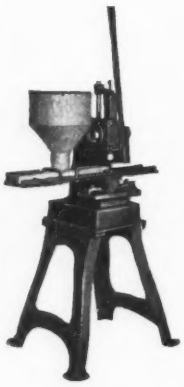
MID-WESTERN HEADQUARTERS FOR ALL INSECTICIDE RAW MATERIALS

Let Us Quote on Your Requirements

ASSOCIATED CHEMISTS, INC.

6243 S. Ashland Avenue Chicago, Ill.

for low cost *in* para block *manufacture*



These two practical machines are all you need to produce high quality para blocks or cakes. The small machine will thoroughly mix all ingredients.

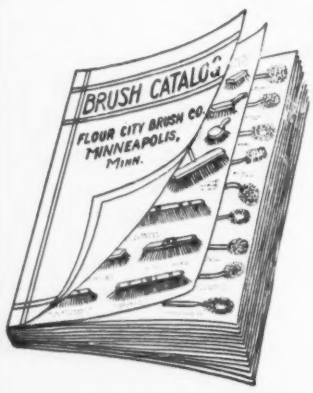
The large machine will compress the mixture into any shape dies can give.

In addition, the mixer can be used on other dry products such as roach powder, cleansers, bath salts, etc. It will also give a smooth, soft and velvety texture to creams. The hand lever press has more power than cheap foot presses. Send us some of your material and let us show you some specimen cakes.

HUBER MACHINE CO.

265 46th Street, Brooklyn, N. Y.

Makers of Good Soap Machinery for Forty Years



BRUSH CATALOG

Our new 1939 Catalogue is now ready for distribution. We manufacture a very complete line of Floor Brushes and Miscellaneous Items for the Janitor Trade.

If you are calling on this trade and are interested in selling Brushes we would be glad to send you a copy of our catalogue.

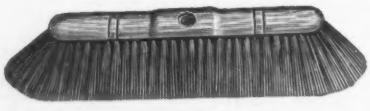
FLOUR CITY BRUSH COMPANY

MINNEAPOLIS, MINNESOTA

PACIFIC COAST BRUSH CO.

(Western Factory)

LOS ANGELES, CALIFORNIA



Volclay Bentonite

THE PERFECT COLLOIDAL CLAY

FOR USE IN

SOAPS	POLISHES
CLEANERS	EMULSIONS
SOAP FLAKES	PLANT SPRAYS
PASTE SOAPS	INSECTICIDES

Bentonite, particularly volclay bentonite, is not merely a filler—in any of the above mentioned products its chemical and physical properties add greatly to the effectiveness of the finished product.

Write today for our latest bulletin covering the use of volclay bentonite in the product you are manufacturing

AMERICAN COLLOID CO.

367 W. SUPERIOR STREET CHICAGO, ILL.

Plants: Upton, Wyo. - Chicago, Ill. - Belle Fourche, S. Dak.

Alexander Joins Chi. Sanitary

Benjamin Alexander, formerly vice-president of Huntington Laboratories, Inc. and president of the Eagle Soap Corp., has become associated with the Chicago Sanitary Products Co., Chicago, in charge of bulk sales and business with the jobbing trade. Mr. Alexander is well-known in the sanitary products trade as a result of his long association with Eagle Soap. Several years ago, he retired from active business and took a two-year trip around the world. Upon his return, he entered the wholesale liquor business, which field he recently left to return to the sale of sanitary products.

New Cresylic Reported

New commercial supplies of cresylic acids, tar acids, and allied materials will be available during 1939 as by-products of petroleum refining, according to reports from the Pacific Coast. Three leading oil companies are stated to be ready to offer these heretofore coal-tar materials on a tonnage basis. The firms named in the report are Shell Oil and Standard Oil of California on the Coast and the Sun Oil Company in the East. Similar reports were received early in 1938 in regard to the Shell company, but it was stated later that actual commerical production had been postponed until the current year.

Koppers Elects McClintic

Koppers United Co., Pittsburgh, has recently elected Robert H. McClintic to its board of trustees and executive committee. Mr. McClintic is the advertising and sales promotion head and assistant to the president of Koppers Co.

Prescott Appoints Agent

J. L. Prescott Co., Passaic, N. J., has recently placed advertising for "Oxol," bleach and disinfectant, through Arthur Kudner, Inc., New York.

Kroneman To Represent D & O

Wm. F. Kroneman, formerly in charge of the insecticide department of Sherwood Petroleum Co., Brooklyn, and connected more recently with R. J. Prentiss & Co., New York, has been appointed special representative for the sale of Dodge & Olcott Company's "Essenol," an insecticide activator based upon the penetrating properties of specially processed essential oils. Mr. Kroneman also represents Pennsylvania Oil Prods. Ref. Co., Warren, Pa., on petrolatum and white mineral oils.

Grasselli Manager Dies

Charles A. Boschen, manager of the export division of Grasselli chemicals department of E. I. du Pont de Nemours & Co., New York branch, died recently at his home in Brooklyn. Mr. Boschen was forty-eight years old and had been connected with the Grasselli organization since 1909.

Fishbein Addresses DCAT

Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association* and *Hygeia* was guest speaker at a luncheon meeting of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, at the Hotel Commodore, December 16th. He spoke on the general subject of "American Medicine and the National Health Program."

Completes U. S. Visit

R. G. Berchem of Jeys Sanitary Compounds Co., Ltd., London, England, insecticides and sanitary chemicals, returned to England on the *Queen Mary* December 10, after a four weeks visit to United States and Canada. While in Chicago he was the guest of Adam Breuer of Breuer Electric Mfg. Co. He also attended the annual meeting of the National Association of Insecticide and Disinfectant Manufacturers in New York prior to sailing for home.

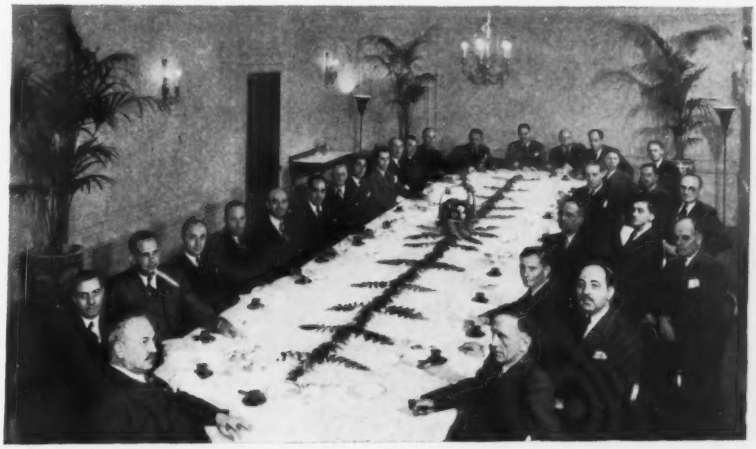
New Fuld Division

Fuld Bros., Baltimore, have just announced the establishment of a new sanitary equipment division. This division will offer such items as soap dispensers, deodorant containers, drip machines, etc. Production will be taken care of in a recently acquired annex offering 20,000 additional square feet of floor space.

Sprout, Waldron Appoint Agent

Sprout, Waldron & Co., Muncy, Pa., manufacturing engineers, have just appointed Chase, Parker & Co., Boston, as authorized distributors to sell their complete line of power transmission appliances in Maine, New Hampshire and parts of Massachusetts.

Following the close of the 25th annual convention of the National Association of Insecticide and Disinfectant Manufacturers in New York last month, S. B. Penick & Co. conducted an inspection tour of their pyrethrum extract and crude drug plants at Lyndhurst, and Jersey City, N. J. A lunch was served at the Biltmore following the trip, at which a number of the guests delivered short talks.



OILS - CHEMICALS - FATTY ACIDS

COMMERCIAL OLIVE OIL
OLIVE OIL FOOTS
RED OIL (Oleic Acid)
TEASEED OIL
MUSTARD OIL

We invite your inquiries regarding the above products

E. M. **SERGEANT**
Pulp & Chemical Company, Inc.
Empire State Building, New York, N. Y.
Established 1867

71 YEARS SUPPLYING THE SOAP AND ALLIED INDUSTRIES

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"

F. & S.

Quality Colors
for
TOILET SOAPS
LIQUID SOAPS
TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N Y.
Import—Manufacture—Export

If you manufacture products containing alcohol

Write us about
TONKAIRE

A new synthetic specialty which eliminates the sharp odor of alcohol

We shall be pleased to forward a sample and full information

COMPAGNIE PARENTO, Inc.
Croton-on-Hudson New York

Schedule PCO Conference at Purdue January 16-20

THE third annual Pest Control Operators Conference will open at Purdue University, Lafayette, Ind., January 16th, continuing through the rest of that week. A full program of talks by experts in both the technical and practical aspects of pest control has been provided. The conference will again be under the direct supervision of Prof. J. J. Davis of the Purdue Department of Entomology and is being given the full support of the National Pest Control Association. Registration fee is $2.00 to cover the cost of printed outline of the talks and discussions. Reservations should be directed to Prof. Davis in advance of attendance. At press time the program for the conference had been announced as follows:

PROGRAM
THIRD ANNUAL PEST CONTROL OPERATORS CONFERENCE
Purdue University, Lafayette, Indiana
January 16-20, 1939

Monday 8:00-12:00 A.M. Registration.
Monday 9:00-12:00 A.M. Agricultural Building, Room 103.
- The Third Annual Conference—Our Problems—J. J. Davis, Purdue.
- The Life History and Habits of Insects; Their Relation to Control—H. O. Deay, Purdue.
- Structural Characteristics of Insects; Their Relation to Control and Identification—B. E. Montgomery, Purdue.
- A Word of Welcome—Acting Dean V. C. Freeman, Purdue.

Monday 1:30-4:30 P.M.
- Fundamentals of Insect Control—J. J. Davis, Purdue.
- Fundamentals of Chemistry as they Apply to Insecticides—H. B. Hass, Purdue.
- Contacts and Publications of Value to the Pest Control Operator—G. E. Lehker, Purdue.

Monday 7:30 P.M.
- Moving Pictures—In Charge, G. E. Gould, Purdue.

Tuesday 9:00-12:00 A.M.
- Natural Habits and History of Rats and Mice—F. E. Garlough, U. S. Biological Survey.
- Demonstration in Preparation of Rat Baits—G. C. Oderkirk, U. S. Biological Survey; E. F. Sennewald, St. Louis.
- Questions and Answers Clinic on Rat and Mouse Control—F. E. Garlough and G. C. Oderkirk, U. S. Biological Survey; E. F. Sennewald, St. Louis, and Walter McCloud, Chicago.

Tuesday 12:00 Noon—Group Photograph.
Tuesday 1:30-4:30 P.M.
- The Classification and Identification of Insect Adults—H. O. Deay, Purdue.

Tuesday 7:30 P.M.
- The Fundamentals of Building Construction—A. H. Carter, Purdue.

Wednesday 9:00-12:00 A.M.
- Problems Arising in Relation to Household Fumigation—J. L. Horsfall, N. Y.
- Hazards in Household Fumigation—I. L. Ressler, Wilmington, Del.
- Demonstration on Use of Gas Masks and Other Precautionary Measures—R. R. Sayres, U. S. Public Health Service.
- The Origin of Pest Infestations—J. J. Davis, Purdue; William O. Buettner, Brooklyn.

Wednesday 1:30-4:30 P.M.
- Identification of Immature Stages of Insects—H. O. Deay, Purdue.
- Characteristic Injuries by Wood-Infesting Insects—T. E. Snyder, U. S. Bureau of Entomology and Plant Quarantine.
- New and Useful Chemical Insecticides Made from Derris Resine and Rotonone—H. E. Whitmire, St. Louis.

Wednesday 7:30 P.M.
- Moving Pictures and Round Table Discussion.

Thursday 9:00-12:00 A.M.
- Basic Formulae—Geo. L. Hockenyos, Springfield, Ill.
- How to Mix Insecticides—Charles Denny—St. Louis.
- Cockroaches—Life Histories and Habits of the Common Household Species and their Control, with Demonstration on Mixing and Apply Controls—G. E. Gould, Purdue.

Thursday 1:30-4:30 P.M.
- Wetting Agents and Penetrants for Moth-Proofing Solutions—H. E. Jennings.
- Clinic on Clothes Moths and Carpet Beetles—E. A. Back, U. S. Bureau of Entomology and Plant Quarantine.
- Ants—Their Identification and Control—W. E. McCauley, University of Illinois.

Thursday 6:30 P.M.
- Banquet—President Edward C. Elliott—Toastmaster.

Friday 9:00-12:00
- The Termite Problem.
- Building Construction and Treatment—A Demonstration—T. E. Snyder, U. S. Bureau of Entomology and Plant Quarantine.
- Diagnosing the Job—G. L. Hockenyos, Springfield, Ill.
- Standardized Technique for Soil Treatment Tests Against Subterranean Termites—W. E. McCauley, University of Illinois.
- Procedure, Hazards and Precautions in Termite Control—W. B. Hill, Memphis.
- Questions and Answers—T. E. Snyder, W. B. Hill, G. L. Hockenyos and W. E. McCauley.

Friday 1:30-4:30 P.M.
- The Psocid Problem—E. A. Back, U. S. Bureau of Entomology and Plant Quarantine.
- Experiences with Unusual Insects and Unusual Insect Situations.
  1. R. M. Adams, Cincinnati, Ohio.
  2. W. P. Flint, University of Illinois.
  3. H. L. Brown, Bloomington, Illinois.
  4. William O. Buettner, Brooklyn.
  5. D. H. Lewis, Buffalo.
  6. T. C. Raley, St. Louis.
  7. J. H. Sturgeon, Louisville.

F.T.C. Cites Hollingshead

R. M. Hollingshead Corp., Camden, N. J., is the recipient of a complaint by the Federal Trade Commission charging that in order to promote the sale of its "Whiz" line to dealers, the company created a monopoly in the automobile chemical business and hindered competitors in disposing of their products. The Commission charges that the company made agreements with jobbers and wholesalers who purchased the "Whiz" line, to accept products of competitors and give credit on these products against "Whiz" items to the extent of the cost to the dealers. This merchandise was stored and then resold to "distress merchandise" dealers far below the original cost to the jobbers and wholesalers.

Conn. P.C.O. Organized

Pest control operators in Connecticut recently organized the Connecticut Pest Control Operator's Association at a meeting held in the Connecticut Agricultural Experiment Station. F. E. Bohman was elected temporary chairman and Walker Heap, temporary secretary. A committee composed of John Duncan, Clyde O'Connell and Fred Haas was appointed to prepare a constitution, offer nominations for permanent officers and outline plans for future activities.

Consider Exterminator Wages

Professional Exterminators Association, New York, recently named a committee to negotiate with the Exterminators' Union for a new contract. The committee consists of J. L. Huberman, Scientific Exterminating Co.; Jack Benmoshe, Evans Exterminating Co.; Martin Grady, Boston Exterminating Co.; and M. H. Oachs, Exterminating Materials Co. Discussions are now underway and their outcome will be announced shortly.

Chicago Drug Banquet

The 36th Annual Christmas banquet of the Chicago Drug and Chemical Association was held at the Stevens Hotel, Chicago, on December 22nd. Following a turkey dinner and a floor show, drawings were held for 140 door prizes. The annual giant souvenir bag was given every member. An innovation this year was a cocktail party sponsored by the association preceding the banquet. In previous years it had been the custom for a number of private cocktail parties to be held.

The HOLZ-EM SOLVES the PROBLEM

of convenient and proper application of floor waxes, seals and varnishes. You can be sure that your products are being used correctly by selling or recommending the HOLZ-EM WAX APPLICATOR and SPREADER to do the job. Designed by experts, made of the best materials, the HOLZ-EM will help build your list of satisfied customers just as it has done for others who are already familiar with the product.

We manufacture a complete line of wool applicators, cotton dust mops and cotton wet mops. For prices and samples write

AMERICAN STANDARD MFG. CO.
2509-13 South Green Street Chicago, Ill.

A new floor wax

for the janitor supply
and jobbing trades which is

waterproof

and which gives a

high gloss

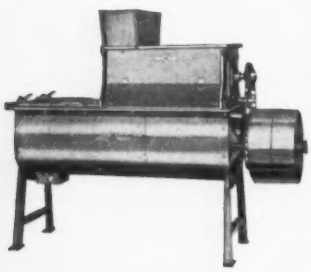
≫

ZIP-ON WAX

Dries very bright and becomes water resistant as soon as dry. Wax content guaranteed 100% Carnauba. Supplied in bulk, or with your label in any size container.

Shawmut Specialty Co.
91 Bickford St. Boston

FOR MIXING



Sweeping Compounds — Deodorant Crystals — Insecticides —

This small Sprout-Waldron power mixer meets requirements perfectly. It is furnished with or without sifter attachment. Sizes range from 2½ to 15 cubic feet, with ¾ to 3 horsepower requirements. *Write for Catalog*

SPROUT, WALDRON & COMPANY
Dept. 3 **Muncy, Pa.**

The private parties were abandoned this year so the entire crowd could gather at one party. The entertainment committee was headed by Elmer F. Smith.

Shipkoff Ends American Visit

Peter Shipkoff, chairman of P. K. Shipkoff & Co., Kazanlik, Bul-

Peter Shipkoff

garia, sailed from New York on the *Queen Mary*, December 16, after a three weeks visit to United States and Canada. While in New York he made his headquarters with Compagnie Parento, Inc., who handle American sales of Shipkoff's otto of rose. He visited Toronto where his company is represented by Compagnie Parento, Ltd., and also made a trip to Parento's Chicago office. Mr. Shipkoff reports that the rose crop this year was about 40 per cent smaller than last year, the total yield of otto of rose being approximately 1600 kilos. Because of the comparatively low prices prevailing in recent years, the culture of roses has become unrenumerative to the growers and an increase in price is to be expected for the 1939 crop.

New Pest Control Book

Dr. Hugo Hartnack, Dr. Hartnack's Exterminating Service, Chicago, has recently completed a book on 202 *Common Household Pests of the United States*. In his book, Dr. Hartnack gives particular attention to the biology of pests and makes suggestions as to treatments.

Givaudan Holds Sales Meeting

Givaudan Delawanna, Inc., held their annual sales meeting at the New York offices of the company on December 13th, 14th, and 15th. Dr. Eric C. Kunz, president of the company, opened the meeting with a message of welcome. R. M. Stevenson, sales manager, presided over the discussions of new plans and products for the coming year which occupied the first two days. The third day was devoted to a trip to the Givaudan factory at Delawanna, N. J. and the meeting was brought to a close with a dinner at the Hotel Brevoort in the evening.

Mitchell of Penick Dies

Harold W. Mitchell, sales representative for S. B. Penick & Co., New York, died recently following a heart attack. Mr. Mitchell had been associated with the drug industry for the past forty years.

Merz Again Heads S.O.C.M.A.

Dr. August Merz, Calco Chemical Co., was re-elected president of the Synthetic Organic Chemical Manufacturers' Association at their annual meeting held recently at the Chemists Club, New York. Other officers re-elected were Dr. E. H. Killheffer of E. I. du Pont de Nemours & Co., first vice-president; Dr. F. G. Zinsser of Zinsser & Co., second vice-president; Ralph E. Dorland of Dow Chemical Co., treasurer, and Charles A. Mace, secretary. Those elected to the board of directors were Victor E. Williams of Monsanto Chemical Co.; C. M. Richter of Pharma Chemical Corp.; and A. L. Van Ameringen of Van Ameringen-Haebler, Inc.

Southern P.C.O. Conference

Southern Pest Control Operators will hold a conference on January 30, 31 and February 1 at the University of Louisiana, Baton Rouge, La.

N.A.C.D. Holds Convention

The National Association of Cleaners and Dyers will hold its annual convention at the Baker Hotel, Dallas, Tex., January 16-19. Numerous chemical specialty companies will exhibit at the convention.

Wafer Heads Chem. Salesmen

Joseph C. Wafer, sales manager of Industrial Chemical Sales Co., New York, was elected president

Joseph C. Wafer

of the Salesmen's Association of The American Chemical Industry last month. He will be inducted into office at a luncheon at the Chemists' Club, New York, Jan. 12.

Monsanto Executive Changes

Monsanto Chemical Co. has just appointed Victor E. Williams, manager of the New York sales branch, to assistant general manager of sales. A. T. Loeffler who has been assistant manager of the New York branch will succeed to the managership. F. C. Renner, assistant general manager of sales, Merrimac division, Boston has been appointed assistant manager in New York.

Pest Control Ass'n Elects

New England Pest Control Association elected officers at its annual meeting held recently at the Hotel Lenox, Boston. Charles W. Houghton is the new president; George R. Elliott, vice-president; Mark Weintraub, secretary; and Bartlett W. Eldredge, treasurer. The Association announced a special course of ten lectures dealing with identification and habits of household insects, beginning February 13th.

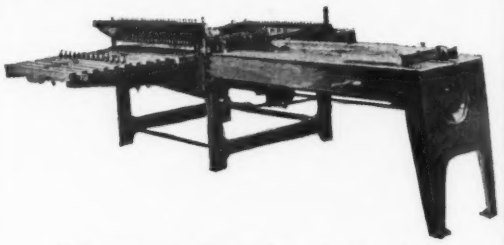
Special Offerings by "NEWMAN"

New and Rebuilt Soap Machinery

WE carry a complete line of equipment for the soap and sanitary product industries. All used equipment is rebuilt in our own shops and is guaranteed to be in first class condition. All new equipment that we manufacture, such as crutchers, frames and cutting tables is of the finest material and workmanship. You can buy with confidence from Newman.

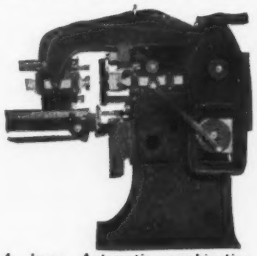
USED SPECIALS

H-A, 1500, 3000, 4000, 5000 lbs. capacity, Steam Jacketed Crutchers.
Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
Ralston Automatic Soap Presses.
Scouring Soap Presses.
Empire State, Dopp & Crosby Foot Presses.
2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
H-A Automatic and Hand-Power slabbers.
Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Powder Mills.
J. H. Day Jaw Soap Crusher.
H-A 6, 8 and 10 inch Single Screw Plodders.
Allbright-Nell 10 inch Plodders.
Filling and Weighing Machines for Flakes, Powders, etc.
Steel Soap frames, all sizes.
Steam Jacketed Soap Remelters.
Automatic Soap Wrapping Machines.
Glycerine Evaporators, Pumps.
Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
Perrin 18 inch Filter Press with Jacketed Plates.
Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.
Day Pony Mixers.
Gardiner Sifter and Mixer.
Proctor & Schwartz large roll Soap Chip Dryers complete.
Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
Day Talcum Powder Mixers.
All types and sizes—Tanks and Kettles.
Ralston and H.A. Automatic Cutting Tables.
Soap Dies for Foot and Automatic Presses.
Broughton Soap Powder Mixers.
Williams Crutcher and Pulverizer.
National Filling and Weighing Machines.



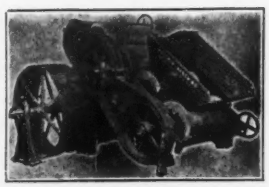
H-A Automatic Power Soap Cutting Table. First-class condition, rebuilt, pulley or direct motor drive.

JONES AUTOMATIC



4 Jones Automatic combination laundry and toilet soap presses. All complete and in perfect condition.

H-A SOAP MILL

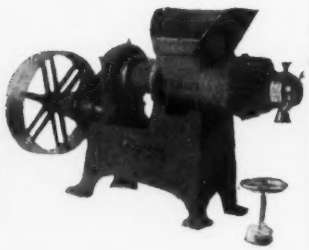


This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls. Priced for quick sale.

NEW CRUTCHERS!

This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

SINGLE SCREW SOAP PLODDER



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.

Send us a list of your surplus equipment—we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 W. 35th St., Chicago, Illinois

Our Forty Years' Soap Experience Can Help Solve Your Problems

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Entomologist—Man with five years' practical experience in insecticide manufacture and also with several government departments, desires new connection with insecticide firm where his knowledge will be of value. Willing to start at moderate salary and prove worth. Some experience selling insecticide base materials. For further details communicate with Box No. 518, care *Soap*.

Line wanted by experienced, successful syndicate store salesman. Knows practically every major soap buyer in East. Large volume producer. Available at once. Address Box No. 527, care *Soap*.

Soapmaker and Chemist—backed by years of experience and capable of analyzing and recreating anything pertaining to soap. Familiar with rendering and industrial oils. Address Box No. 528, care *Soap*.

Soapmaker and Chemist has many customers and first class formulas from well-known soap house. Wants responsible position with small or large soap concern. Chicago district. Address Box 511, care *Soap*.

Soapmaker and Chemist, good worker, good references, experienced in laundry chips, flakes, powder, bars, green auto bars, any kind of potash soaps, shampoos bases, specialty soaps, etc., looking for steady position. Address Box No. 512, care *Soap*.

Englishman, at present well-known consultant to the soap and allied industries in Great Britain, seeking to extend his experience in the U. S. A., offers his full-time services in a suitable capacity to an American organization. Address Box No. 515, care *Soap*.

Insecticides—Salesman for manufacturer of agricultural and other insecticides, fully familiar with the business, desires to make new connection. Past experience includes both household and agricultural sales contacts over wide territory. For further details address Box No. 519, care *Soap*.

Dry Cleaning Soaps—Man with twenty years' experience in Germany in the marketing and sale of dry cleaning, spotting, and allied specialties, and in laundry supplies, desires position with American firm. Has full formulas and data on German products, many new in the U. S. For further details, communicate with Box No. 516, care *Soap*.

FORESIGHT-Not Hindsight

The time to buy is *before* not after prices follow the upward trend in industry. Buy Consolidated's Guaranteed Good Rebuilt Soap Machinery *now*.

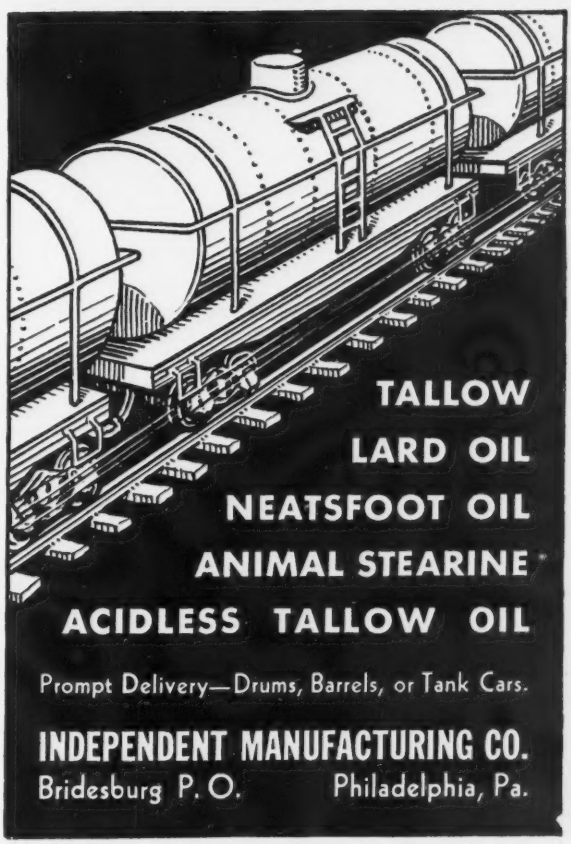
Selected Specials

3—Automatic Soap Wrapping Machines, electric glue sealers, adjustable.
2—Pneumatic Scale Carton Packaging Units.
1—Proctor & Schwartz Soap Chip Dryer, steel frame, 72″ Apron, with 5-roll P. & S. Mill.
4—Steel Wool Mfg. Machines, complete.
1—Blanchard No. 10 Soap Powder Mill.
8—Rotex Sifters, 20″x48″ screens, single deck.
1—Jones automatic Soap Press.

Crutchers	Foot and Automatic	Filter Presses
Soap Kettles	Soap Presses	Soap Frames
Powder Mixers	Cutting Tables	Powder Fillers
Granite Mills	Pulverizers	Labellers
Plodders	Soap Pumps	Tanks
Slabbers	Soap Chippers	Boilers

Send for Illustrated Soap Bulletin

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600 Cable Address: Equipment
We buy your idle Machinery—Send us a list.



Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134 for page numbers. *"Say you saw it in SOAP."*

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American Cyanamid & Chemical Corp.
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Columbia Alkali Co.
T. G. Cooper & Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Solvay Sales Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc.
Baird & McGuire, Inc.
Buckingham Wax Corp.
Candy & Co.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Federal Varnish Co.
Fuld Bros.
Harley Soap Co.
Hysan Products Co.
Koppers Co.
Kranich Soap Co.
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
Shawmut Specialty Co.
Sweeping Compound Mnfrs. of N. Y.
Uncle Sam Chemical Co.
T. F. Washburn Co.
WaxPol Laboratories
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
T. G. Cooper & Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
E. M. Sergeant Pulp & Chem. Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures & Bottles)
Continental Can Co. (Tin Cans)
National Can Co. (Cans)
Standard Container, Inc. (Cans and Closures)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
National Sanitary Chemical Co.

ESSENTIAL OILS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Co.
Firmenich & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Rohm & Haas Co.

(*Continued on page* 132)

Chemist—Young man 10 years experience in soaps, soap specialties, waxes, polishes, etc.; analysis production, research; capable of new ideas; knows soap line thoroughly. Address Box No. 529, care *Soap.*

Soapmaker—Perfumer—Chemist; life-long experience toilet and laundry soap manufacture. Salary reasonable. Chicago district preferred. Address Box No. 530 care *Soap.*

Chemist, Ph.D., many years experience in soaps, cosmetics, perfumes, oils, fats, etc., with leading companies, desires connection. Best references. Address Box No. 521, care *Soap.*

Chemist, Ph.D.—Thorough chemical and engineering training. Twelve years executive duties. Extensive experience with disinfectants, antiseptics, detergents, and insecticides. Interested in development and production. Address Box No. 517, care *Soap.*

Chemist—Woman with a number of years experience in an insecticide laboratory desires new position. Is graduate in pharmacy, and has had experience in oils, fats, soaps and waxes. For further details communicate with Box No. 496, care *Soap.*

Perfumer—Man with ten years technical and sales experience in perfume materials, soap perfuming and toilet goods, eight years in France, two years in U. S., desires new connection. Could sell for perfuming materials house to advantage. Speaks French, German, and English fluently. Address Box No. 503, care *Soap.*

Positions Open

Soap Maker Wanted: For South America, must be capable of manufacturing toilet soaps and especially laundry soaps of all types; blue mottled, etc., and recovery of glycerine. State experience in first letter. Address Box No. 522, care *Soap.*

Salesmen—We are seeking a few high type salesmen with good selling record to call on janitor, hotel restaurant supply jobbers to sell our complete line of high grade Sanitary Chemicals. Exceptional opportunity. Established trade. Write for interview giving complete details of experience and record. J. A. Tumbler Laboratories, 423 Hanover St., Baltimore, Md.

Competent Industrial Maintenance Chemical salesmen—Splendid opportunity offered men with proven sales records in the fields of waxes, disinfectants, soaps, and polishes. An enlargement program makes it possible to offer a permanent position in Boston, Mass., Washington, D. C., Buffalo, N. Y., Cleveland, Ohio, and Pittsburgh, Pa. These positions offer a drawing account commensurate with past record. Tell us why you are the man for the position. Address Box No. 513, care *Soap.*

Sales Representatives Wanted: Manufacturers' representatives contacting wholesale and important retail outlets to handle guaranteed line of floor waxes of proven merit, attractively packaged and has price appeal. Experience proves steady, repeat sales. State present line and territory covered. Address Box No. 514, care *Soap.*

Miscellaneous

Wanted—Proctor & Schwartz four or five fan soap chip dryer with 48" diameter cooling roll for cash. Must be in good condition. Address Box No. 520, care *Soap.*

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Complete Soap Plant Equipment for Sale: Proctor soap chip dryer; automatic soap press; wrapping machine: 4 roll stone mills; foot press; plodders 6", 8", 10"; soap boiling kettles; 6 knife chipper; two-way cutting table; frames; filter presses; crutchers; mixers; boilers. Stein Equipment Corp., 426 Broome St., New York City.

Carpet Beetles, and other living insects for experimental purposes. Reared in quantities. H. Scudder, Insectary, Cornell University, Ithaca, N. Y.

"Before you Buy—Ask WECOLINE"

High Grade Distilled

FATTY ACIDS

COCONUT
PALM
CORN
LINSEED
SOYA BEAN
COTTON SEED
WHITE OLEIN
TEASEED

—and REFINED OILS of ABOVE

—also SPECIAL PROCESSED FATTY ACIDS and oils, as required for specific soap, resin, and cosmetic uses. Highest purity and color.

Specifications and Samples submitted on request, stating your approximate type needs.

"ASK WECOLINE"—especially if you place emphasis upon the quality of materials used in your products, and demand rigid specifications.

WECOLINE Products, Inc. BOONTON, N.J.
Sales Offices: NEW YORK.....CHICAGO.....BOSTON

Raw Material and Equipment Guide

(*Continued from page* 130)

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 134 for page numbers. *"Say you saw it in SOAP."*

MACHINERY

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Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Colloid Co. (Bentonite)
American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Flour City Brush Co. (Brushes)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Koppers Company (Coal, Coke, Roofing Materials)
Lenape Trading Co. (Waxes)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)

OILS AND FATS

Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
E. M. Sergeant Pulp & Chemical Co.
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
Pennsylvania Refining Co.
S. Schwabacher & Co.
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.

SILICATES

E. I. du Pont de Nemours & Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.
Presto Mfg. Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Fumeral Co.
Mystic Products Co.
Standard Containers, Inc.
Universal Metal Prods. Co.

TRI SODIUM PHOSPHATE

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

Professional Directory

Pease Laboratories, Inc.

Est. 1904

39 West 38th Street — New York

Chemical, Bacteriological and Pathological Testing and Research. Special Animal Investigations of Pharmacologic, Toxic or Skin Irritating Properties.

H. A. SEIL, Ph.D — E. B. PUTT, Ph.C., B.Sc.

SEIL, PUTT & RUSBY, INC.

Analytical and Consulting Chemists

Specialists in the Analysis of Pyrethrum Flowers, Derris Root, Barbasco, or Cube Root—Their Concentrates and Finished Preparations

ESSENTIAL OILS — SOAP

16 East 34th Street, New York, N. Y.

STILLWELL AND GLADDING, Inc.

Analytical and Consulting Chemists

Members Association of Consulting Chemists and Chemical Engineers

130 Cedar Street — New York City

SOAPS — DETERGENTS

Analyses *Development*
Consultation *Formulas*

Hochstadter Laboratories INCORPORATED

254 West 31st St. — New York City

KILLING

strength of Insecticides

by PEET GRADY METHOD

(Official I. & D. code method) and
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger's Method)

We raised and killed more than 1 million flies in the last 2 years

ILLINOIS CHEMICAL LABORATORIES, INC.
5235 WEST 65th STREET — CHICAGO, ILL.

CHARLES S. GLICKMAN

Consulting Chemist

SPECIALIZING IN

WAXES and WAX PRODUCTS

Plant Design — Formulas — New Products

220 Broadway — **New York**

COrtlandt 7-3382

FOSTER D. SNELL, INC.

Chemists—Engineers

Every form of Chemical Service

305 WASHINGTON STREET — BROOKLYN, N. Y.

Patents—Trade Marks

All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorneys' Fees"—Free

Lancaster, Allwine & Rommel
PATENT LAW OFFICES

Suite 402, Bowen Building — Washington, D. C.

ALAN PORTER LEE, Inc.

Contracting and Consulting Engineers

Design and Construction of Equipment and Plants for Producing and Processing Fats, Oils, Soaps and Related Products

136 LIBERTY STREET, NEW YORK, N. Y.

Cable Address: "ALPORTLE", New York

Refer To Your 1938

SOAP BLUE BOOK

for F.D.A. Method for Testing of Disinfectants and Antiseptics.

Official N.A.I.D.M. Method for Testing and Grading of Insecticides.

Free with a $3.00 subscription to SOAP.

MAC NAIR-DORLAND CO.

Publishers

254 W. 31st Street — New York, N. Y.

Skinner & Sherman, Inc.

240 Stuart Street, Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for germicidal value or phenol co efficient by any of the recognized methods.

Research—Analyses—Tests

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Olive Oil

Olive Oil Foots

Deliveries spot and future in barrels, tank cars, drums or tank wagons.

ESSENTIAL OILS

Lemon—Bergamot—Orange

LEGHORN TRADING CO.
INC.

21 West St., New York

Phone: WHitehall 3-9636-7-8

ITALY—SPAIN—GREECE—TURKEY—AFRICA

To Sulfonators and Soapmakers

OUR

Pure Imported

PEANUT OIL

is an excellent substitute for

OLIVE OIL and OLIVE OIL FOOTS

MURRAY
OIL PRODUCTS CO.
INCORPORATED
21 WEST ST., NEW YORK

SHAVING CREAM

TOOTH PASTE

In Bulk Or

Under Your Own Name in our special tubes and cartons. These are lithographed with a blank space for *YOUR* label. In any quantity from one gross up.

GEO. A. SCHMIDT CO.
INCORPORATED
Manufacturers of SOAPS *of Every Description*
236-238 West North Avenue.
Chicago.

TO THE janitor supply and jobbing trade, the following new products are offered at low and interesting prices which will enable you to secure new accounts and meet competition.

WATER EMULSION WAX:—waterproof, 100% carnauba, high gloss, non-slippery. Contains no shellac. Certified to pass the Federal (PW-151) Specifications.

PASTE & LIQUID SOLVENT WAXES:—glossy, non-slippery, wear-resistant. Easily buffed.

NEUTRAL FLOOR CLEANER:—a non-soap liquid cleaner guaranteed to contain no alkalies, fats or oils. Works equally well in hot, cold, soft or hard water.

For full details, samples, prices, etc., write

WaxPol Laboratories

247 Lorraine Street Brooklyn, N. Y.

...do they know you?

DO buyers know your firm and something about your products *before* the salesman gets there, —or do your salesmen have to start cold with every new prospect on every product?

You can pave the way for your salesmen by making your firm and your products better known *in advance* by advertising in representative trade papers. A buyer is always more willing to listen to salesmen who are *definitely identified* by their firm's advertising.

For example, if you want to help your salesmen do more business in the soap, insecticide, chemical specialty, and allied household products industries, you can do the job effectively and at low cost by advertising in

SOAP *and Sanitary Chemicals*

254 WEST 31st STREET NEW YORK

Member of the A.B.C. and A.B.P.

Tale Ends

THE new year begins with hopes at a high point. From where we sit, the outlook is for a good year for business generally. Unless our law-makers, — Congress and some 40 odd state legislatures meet this year,—well,—unless they throw an extra large number of monkey-wrenches into the machinery, 1939 should fulfill our hopes.

* * *

The McKesson & Robbins scandal has certainly made a lot of stockholders in a lot of companies do a lot of wondering.

* * *

And we wish to remind subscribers not to worry about not receiving *Soap & Sanitary Chemicals* regularly,—that is unless you throw that subscription renewal bill in the waste-basket and forget about it. As soon as you receive your renewal notice, send in that check and avoid missing any issues,—and also insure your receiving a free copy of the 1939 Blue Book as soon as it is issued!

* * *

Recently a newspaper report of an explosion and fire in Chicago due to using a fly spray was checked up by our inquiring reporter. He found (1) that there was no such street or address as that given in the paper, (2) that there was no such person in telephone or city directory as the lady supposedly injured in the explosion, (3) that there was no fire or police record of said blow-up. Now, all we have to find out is whose fly spray it wasn't, and our investigation will be complete.

* * *

Here's to a prosperous 1939. Read *Soap & Sanitary Chemicals* regularly and keep posted!